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THE
# MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—9TH YEAR. SYDNEY: SATURDAY, NOVEMBER 25, 1922. No. 22.


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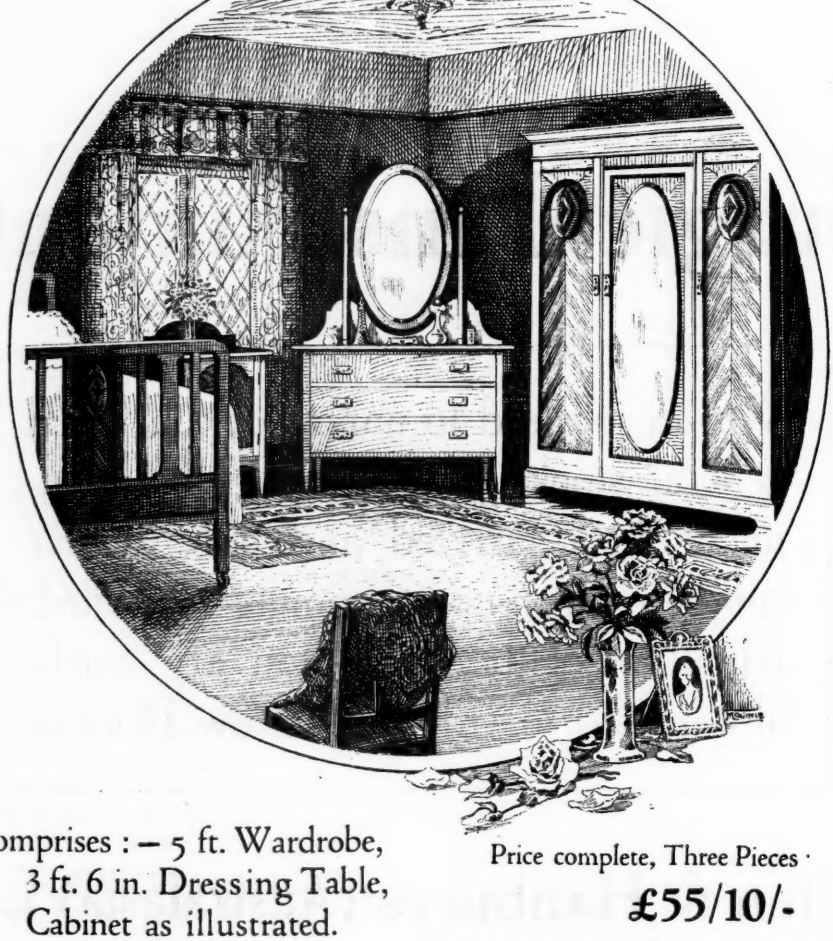

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## SOME GENERAL PRINCIPLES IN PSYCHO-THERAPY.[1]


BY L. P. LOWSON, M.D., CH.B. (EDINBURGH),

*Professor of Medical Psychology, University of Queensland.*


THE following case of functional loss of memory has the disadvantage of being somewhat unusual as compared with the ordinary run of psychological cases in civilian practice. The shortness and simplicity of its history and course are, unfortunately, very uncommon features. But this disadvantage is outweighed by an advantage in another direction, namely, the fact that its unusual simplicity brings out very clearly some of the principles which govern all such cases and furnish an indication for their treatment. I understand that one of the objects of a paper such as this is to provoke discussion and for this purpose a simple case which at the same time illustrates principles, may prove better than a complicated one.

In order to save trouble I propose to take the history of the patient and of her breakdown in their order in time and not in the order in which I learnt about them.

The patient was a girl of twenty living in the country. Up to the age of eighteen nothing remarkable had been noted in her history. At that age she became engaged to a man in business in a town some distance away. Her father disapproved of this engagement, though not very actively; the man was considerably older than his daughter and, besides, he did not like him. I must say that, in the light of subsequent events, I cordially agree with the father's opinion. Naturally enough the girl herself took a very different view. During the two years that the engagement lasted, her whole interest seems to have been centred on her fiancé and her eventual marriage to him. The matter seems never to have left her thoughts and formed a constant background in her mind with which every little incident of her daily life tended to be linked up. For example, when the milkman brought his little girl to the house she would say how nice it would be when she was married; she would have a little girl like that and so on. I mention these things simply to show that the affair had taken a very thorough possession of her mind.

We now come to the events which led to her illness. On the Sunday of the week in which her illness began, she was perfectly well. She spent most of the day practising songs for an approaching concert and went to bed thinking, so she afterwards told me, about her lover and her marriage.

On Monday morning she received two wires from her fiancé, one after the other, and it is a point worth bearing in mind that, in accordance with custom, these wires were read to her over the telephone by the local postmistress instead of being sent up to the house. The first wire ran: "Bad news follows in letter sent to-day." The second, handed in within ten minutes of the first and evidently written in fear of her personal arrival in response to the first, ran: "Health quite all right, so don't try to come up." In reply she sent off a wire asking if he was really well and got the answer: "Yes, quite; all interest in engagement lost." This telegram—read to her, we must remem-

[1] Read at a meeting of the Queensland Branch of the British Medical Association on October 6, 1922.

ber, by the village postmistress—was a very great shock; nevertheless, she clung to the belief that there was a mistake somewhere until the following day, when a letter arrived which stated in unmistakable terms that their engagement must end. The same evening she went up to London with her sister and insisted on an interview with her fiancé. He behaved very wildly, talked a lot of nonsense about going out of his mind, etc., and denied that there was anyone else. She made him take the ring off her finger and came home in a state of very great excitement. So much upset was she that her parents became alarmed when they found it impossible to calm her and sent for the doctor, an old family friend. He insisted on her going to bed, gave her a dose of "Veronal" and waited until he saw her asleep.

Next morning (Wednesday) she awakened, in appearance much better. She still looked ill and complained of weakness, but all the violent excitement was gone; she seemed calm again and, relatively speaking, happy. It was only in the course of conversation that her mother learnt to her dismay that her daughter knew nothing of recent events, that she believed her present illness to be the continuation of one from which she had recovered some weeks previously and that from her point of view her engagement was still in being. In fact, she expected a visit from her fiancé, for it is a point worth noting that, during the illness from which her memory appeared to pick up, he had visited her a number of times. Her mother and father, fearing that she was becoming insane, hesitated to interfere with her; however, after a talk with her doctor, her memory cleared up to some extent. She recognized that the belief in which she had awakened must be wrong and that the present illness must be a new one; and in the course of the day her memory became clear again up to a certain point, namely, up to the previous Sunday, the last day on which she had been happy. The events of Monday and Tuesday, however, seemed to remain obstinately beyond her grasp and her friends were afraid to tell her what they were, for she continued to speak as before of her engagement, to wonder why her fiancé did not come to see her, etc..

Throughout Thursday and Friday and up to the morning of Saturday her state of mind continued the same so far as her conscious memory went. Monday and Tuesday remained a blank to her. None the less there were indications, well worth mentioning, that the lost memories could not be so far away as they appeared to be. She not only knew from being told by others that she had forgotten two days; she now felt that she had forgotten something, though she could not remember what it was. Moreover, she felt afraid of what she had forgotten. Could it be that it was something very painful, something that it would hurt her to remember? Further, her mother noticed that she seemed always to be listening for something. On inquiry she said that for some reason she kept expecting that the telephone bell would ring; we shall see the reason for this later on. On Saturday morning she began to be worried about the blank in her memory. She made the remark: "If the telephone bell would ring, I would remember," and immediately afterwards: "Why doesn't Alfred come to see me?" Her mother also noticed her looking in a puzzled sort of way at the fourth finger, from which the ring was absent.

I saw her for the first time on Saturday morning and learn some of the facts which I have already given you. I found her in bed, looking pale and weak. She gave the impression in conversation of being still slightly dazed. Her manner was a little childish. Her answers were given slowly and without energy, though they were perfectly sensible as far as they went. She seemed apathetic. She had no conscious recollection of the painful events of Monday and Tuesday, yet here again there were indications that, while these memories were not in consciousness, they were nevertheless not inactive. An indication of this, which is not uncommon in such cases, was that her tongue "slipped" in speaking of her engagement and approaching marriage. Without noticing it she used the phrase: "We were going to be married" instead of "We are going to be married," where the latter expression would have been natural under the supposed circumstances.

In a case of this kind it would seem that the only course to pursue is to bring the inhibited memories clearly before consciousness. Obviously, the patient cannot deal with her difficulties, nor can the doctor help her with them until this has been done. But since the immediate consequence may be a considerable emotional disturbance, so that the patient to all appearance may be much the worse for the time being for what has been done, it is well to forewarn the relatives of this possibility.

As with so many patients who are seen sufficiently early, the process of revival proved very simple. I began, however, by doing something which is technically wrong. I stated the facts to the patient herself, in order to see what her attitude would be. For theoretical reasons I wished to see how she took such a statement, but I should like to make it clear that such a proceeding is usually bad technique and not to be recommended as a rule. She was a little shaken by what she heard; she glanced at her finger from which the engagement ring was gone, but her reply was that if these things had really happened it was impossible that she should have forgotten them. I did not press her further. To have done so would have been more likely to produce an outburst of hysterical resistance than to produce the useful result we hoped for.

We may now contrast with this a more correct procedure. Having made the patient compose herself comfortably and close her eyes, I asked her to begin on Sunday and tell me everything in order as it happened. This she did and we reached Monday morning without difficulty. The first stop came, in fact, at the point at which the first telegram arrived; the patient could remember no more. All that was necessary, however, was to persist in directing the patient's attention to that point. In this case we were fortunate in knowing what in most cases has to be painfully discovered, namely, that we had reached the immediate associates of the wounding memories. We knew, further, that such memories required nothing but a kind of unconscious permission—if I may so express it—on the part of the patient in order to make their appearance in consciousness. Accordingly they did appear and, in this way, proceeding from point to point, we got a complete account of the events of the forgotten two days in their time order. Wherever a stop occurred, wherever, that is, the experience concerned was of a specially painful kind—for these are the places where stops occur—a little persistence proved to be all that was required. One does not allow oneself to be influenced by any remarks that the patient may make about feeling tired, wanting to rest and so on. Here, as so often in the practice of medicine, it is necessary to be cruel in order to be kind and remarks of this kind in the course of such a process are determined not by fatigue, but by a very natural unwillingness to proceed—just as a very ignorant man might object to having a fracture set because it hurt him. The substance of what we heard I have already given. A further point, however, which is of considerable interest, may be mentioned here. Throughout the recital the patient remained in a kind of dreamy state, showing much less emotion than I had reason to expect, till at the very end I learned that her former

lover at the final interview had promised to write to her. He had, in fact, written, but to the same effect as before. I gave her the letter; she read it and then the emotion came. We may connect this with her listening for the telephone, to which I have already referred. She had had the feeling that a ring from the telephone bell—a ring from her fiancé—might settle all her difficulties: "If the telephone bell would ring, I would remember."

The immediate result was very satisfactory and she made a rapid and complete recovery. The further treatment was left in the hands of her own doctor and I did not see her a second time. For a day or two she awakened in the morning a little confused as to the situation, but this did not happen more than two or three times, nor except immediately on waking. In a few weeks she was herself again.

It is clear that in a case of this exceptionally simple kind the treatment required was one that anyone having a sufficient appreciation of the real situation and a certain knowledge of any sympathy with human nature, could have carried out. All that was required was patience, persistence and practical as distinguished from sentimental sympathy. Unfortunately, as I said, simplicity is the exception and not the rule. We started here with a knowledge of the time and the immediately determining conditions of onset, fully informed, indeed, as to the shock which had excited the condition, while in most cases this knowledge is wanting and has to be patiently dug out from the recesses of the patient's mind. Nor had the mind of the patient had time to develope a complicated system of defence against interference with the painful memories, such as we are accustomed to meet with in the commoner types of case, in which the patients' histories, open or secret, stretch for years behind them. A second difference consists in the grossness of the patient's break with reality. In the commoner types of case the repressed experience has to do, as a rule, rather with the facts of the patient's own nature and character than with the facts of outer experience, a circumstance which again considerably increases the difficulty of investigation. In the present case the mental rupture with reality was so gross that it could not have continued for an indefinite period consistently with sanity. What would have happened if the patient had been left alone? Having regard to her previous history and heredity, I am inclined to think that some form of spontaneous recovery would have taken place after a longer or a shorter time. In the only other precisely parallel case of which I have recent knowledge, the patient recovered spontaneously after a three months' illness. Prognosis here, however, would depend upon previous history and heredity and I should not care to leave a patient in such a condition for such a length of time, if I could help it.

The chief interest of the case depends on the clearness with which it throws into relief certain general principles which are equally important, though more difficult to detect, in commoner forms of psychological disablement. These I shall now take up point by point.

The situation in the patient's mind was something like this: She had been faced with a set of facts which were absolutely destructive of the strongest and deepest rooted interest in her life, the strongest source of satisfaction which she possessed, a set of facts, therefore, of the most painful kind. These facts she was unable to face; they cut not only into the sentiment she had formed for the man to whom she was engaged, but also into all the natural feelings of pride which are apt to become part of a sentiment of this kind. The consequence was that the corresponding memories underwent repression—or inhibition—that is to say, they were more or less effectively prevented from appearing in consciousness. The term repression is a descriptive term and that is all that is meant by it. The memories were expunged by the censor, in the metaphorical expression which Freud introduced.

The first point to which I wish to call attention, is that this was in the beginning an automatic or unconscious and not a voluntary or conscious process. This is clearly brought out in this particular case by the fact that the inhibition became established during sleep, just as the subsequent tendency to relapse after revival of the memories showed itself only on waking. I dare say some of us may have had the experience of waking in the morning with the disagreeable feeling of having "something on our chest," of something unpleasant impending during the day, which for the moment we cannot recall. The patient's situation might be regarded as an extreme instance of this normal occurrence. The present point, however, is that at the time when the repression was established, the patient was not aware that it was being established, nor was she aware afterwards of what had happened. It was useless, then, to urge that the patient ought to have faced her difficulties. No doubt it would have been much better if she could have done so, but the point is that her mind was not actually adequate to the task and gave her no opportunity. Yet one sometimes hears a similar form of criticism levelled at some unfortunate neurasthenic, wrestling with difficulties which he cannot understand: "It's all imagination and nonsense. Why doesn't he give it up?" The truth seems to be that the unconscious repressions or inhibitions which are encountered in such cases, are the consequences of a much older and more primitive mode of function within our mental apparatus or, if the expression is preferred, within our nervous systems than the probably much more complex mechanisms underlying voluntary decision, which are developed mainly within the lifetime of the individual himself. When our acquired controlling interests are for the moment disorganized, it is the primitive mechanisms which are left in charge.

The second point is that automatic and unconscious though such repression be, it is not maintained without the expenditure of energy.[1] The facts make it clear that the painful memories were not forgotten in a passive sense, as facts are forgotten in which we have no longer any interest. They were "actively forgotten," actively prevented

[1] The following consideration applies mainly to neurasthenia or to mixed cases and not to pure "conversion hysteria," where the situation is somewhat different.

from appearing in consciousness, for they were themselves sufficiently active to influence disagreeably the patient's thinking. Her question: "Will it hurt me, when I do remember?" betrays her inkling that there is something painful there, though she cannot say what it is; and her slip in speaking of her engagement shows that the memory of its rupture is in some sense active, though it does not come distinctly to consciousness. The truth seems to be that memories such as these are connected with too strong an interest not to come into consciousness at once if there were not something which prevented them from doing so. That something seems to be the pain or to be a consequence of the pain by which they are accompanied. The pain seems—if I may put it so—to rise like a barrier at the points of connexion between the repressed ideas and the ideas in whose interest they are repressed and to work in two ways. On the one hand, it keeps back or sets in action something which keeps back the disagreeable ideas; on the other hand, it makes all that region of the patient's mind so sensitive that she cannot bring her voluntary attention to bear upon it. That the memories themselves are ready to function is shown by the fact that when all distractions are removed and her attention is kept directed to their neighbourhood, the supposedly lost memories appear. This is a point of considerable practical importance. It is the emotional energy actually connected with such inhibited ideas which makes it possible to bring them into consciousness against the resistance that keeps them back.

This brings me to a third point. It is clear that the difficulty in getting at such ideas is conditioned by their painfulness. The ideas concerned are inhibited because they are painful. But on what does their painfulness depend? Clearly it depends in turn on the fact that they are in violent conflict with a powerful personal interest whose satisfaction they contradict. Apart from the existence of this interest, they would not be painful at all. This is again a principle of general application in cases of so-called functional nervous disorder, whether the patient be neurasthenic or hysterical. In such a case we have always to remember that there are too sides to the question at issue; on the one side the objectionable facts or it may be the objectionable tendencies in the subject's own nature; on the other side, the interests to which they are objectionable. Both sides are essential to the existence of a conflict. As a combatant soldier once said to me: "Cowards never become neurasthenic." He was probably right. It is not the man who is satisfied to yield to fear, where he thinks he can safely do so, but the man who desires to control himself and who feels his control is slipping from him, who is in danger of becoming neurasthenic.

A fourth point arises naturally here. Mental conflict—conflict between personal interests, needs and desires—is, of course, a normal feature of human life. No one escapes it. Repression, unconscious disregard of disagreeable facts and personal tendencies, is equally a normal feature of human life. All of us have had to learn to keep our thinking more or less up to the level of reality, so as to judge our situation by the facts, as far as we know them, however disagreeable and vexatious they may be. But there is a great deal in that "more or less." In connexion, for example, with the work by which we earn our livings or in connexion with some equally urgent pursuit—some pursuit in which the compulsion to face fact is equally urgent—we keep ourselves up to this standard of intellectual control to the best of our ability; but outside such interests and especially in relation to ourselves we all tend to push disagreeable facts on one side whenever we can. Now, pathological repression is only an extreme degree of this universal tendency. Repression in fact is only "pathological" when it so warps the individual's thought and action as to disable him in "practical affairs," in his intercourse with his fellow creatures, in his business and the like. Here again it is clear that to produce this degree of distortion in the current of thought and action powerful interests must be involved, with whose satisfaction the happiness of the individual is largely bound up. Repression is a consequence of mental pain produced by conflict and the pain is proportional to the strength of the desires concerned. To produce a dissociation such as we have been concerned with, powerful desires deeply rooted in the personality must be at work. This is one of the facts which help to explain Freud's well known generalization that, apart from interference with the system of the sexual interests, there are no psycho-neuroses. I do not accept this generalization, but it is only fair to say that it is true of a large number of persons as it is true, for example, in the case under discussion.

It is worth remark here, in parentheses, that the fact just mentioned explains one of the practical difficulties which is met with by anyone who takes an interest in this branch of work, namely, the difficulty of publication. One cannot publish the intimate details of a man's life as one can publish the details of an infection or a surgical accident. Even in the present case, which I have permission to use, it is possible that some may feel that there is something repugnant about the public discussion of so private a matter. I do not share this feeling strongly, but if it were present in anyone's mind, I should understand it and sympathize with it up to a certain point.

Pass now to a fifth point! In this case we have a set of dissociated memories and what I have just said illustrates the mechanism of dissociation. But what happens when the memories are "re-associated"—a bad term to use, since what really happens is not that destroyed associations are re-created, but that a resistance which stood in the way of their functioning, has been in part side-tracked and in part overcome. This is to some extent a vexed question. It is held by some psychologists and was believed originally by Freud himself that much of the relief follows from the fact that the emotion connected with the repressed ideas is given an opportunity to work itself out fully, is "abreacted" as the term goes—worked off again. I do not, of course, deny this as a fact; it always happens in some measure; but I doubt whether it has all the

importance in itself which is sometimes attributed to it. What seems almost certain is, first, that unless the recognition of the true facts is accompanied by some degree of the original emotion which gave them their importance, the patient is not so likely to realize their true bearings on his life and personality and, second, that after such a procedure the facts in question are for the first time submitted to the patient's judgement for consideration and criticism in the light of his whole experience. This latter process is one which, as in the present case, could not happen before the facts were known. In the first instance the judgement of the patient was thrown out of action by the emotional shock she had received; she had, as it happened, no considerations ready to her hand with which to meet the situation and lessen the shock, and she was for the moment incapable of looking calmly at the facts; in the second instance the facts were thereafter withdrawn from her consideration. It is part of the function of the physician to maintain such facts in consciousness, so that after the first painful emotions have worked themselves out, these same facts are seen against a bigger background and their meaning alters. The patient, it is true, is left faced with a conflict which has to be solved, the giving of a new direction to her life, but she is left in a position which makes its solution possible. She can now see the situation more nearly as it really is, compare it with her life as a whole and realize that, however painful it may be, her life and her future are not necessarily destroyed by it.

There remains one last point of theoretical interest with which I wish to deal. I have been considering mental functions—emotion, desire, satisfaction, disappointment and the like. What is the relation of all this to the nervous system? This is a point about which many people feel a difficulty and therefore I should like to be as clear as possible about my personal view of it.

Why have I described this case in psychological terms, that is, in terms of thought, feeling and action, without attempting to translate these into neurological language? The reasons are two.

The first reason is of a practical order. All such cases lend themselves easily and naturally to this form of description. Anyone who studies them, is forced to admit that, whether the intimate processes concerned are "conscious" or not, what goes on can always be described in terms of human motives. On any hypothesis, of course, what goes on does not occur by chance. We believe and we have good ground for believing that everything that happens, happens according to rules, which it is our business to find out and express as clearly and simply as we can. But the point is that what occurs here, can be described and understood more easily in psychological terms than in any others. We are all familiar with wants and desires and emotions in our own persons and to some extent with their effects and here everything goes on exactly as though the patient wanted to forget; in fact, it is clear that the need to get rid of pain, a need with which we are all familiar, is the determining factor. It is for this very reason that the full description of such a case as this so often arouses the suspicion, in the absence of experience, that the patient must have been malingering. This was a difficulty constantly met with during the war. If one tried to explain fully the mechanism of a genuine hysterical mutism or paralysis to someone who was not acquainted with such cases, the conclusion was often reached that one was accusing the man of malingering. But it would not be reasonable to suppose that all the "functional" mutes and paralytics which the war produced were malingerers—far less the neurasthenics. The truth is that we all greatly under-rate the extent of our mental automatism.

The point, however, is that this psychological mode of description actually enables us to understand the patient's situation, so as to approach it rationally and in the present case to deal with it successfully and I believe that, according to the principles of the scientific method, these are the only sound criteria of a good scientific description. Hence the mode of description is so far justified.

Turn now to the neural side of the question for the second reason. Neurological research has given us good grounds for assuming that every modification of thought and feeling is accompanied by a corresponding modification of the nervous system. We have, in fact, got a little further than this. The modifications may and often do extend to the whole body in unexpected ways, as the work of Cannon has shown us in relation to pain and rage or as the psycho-galvanic reflex shows us, where every smallest difficulty in adjusting to a disturbing sensation or idea turns out to be followed by a change in electrical resistance over the whole surface of the body. I am very ready, then, to admit the possibility that, if we knew enough, if our physiology were sufficiently advanced, all that I have been describing in psychological terms might then be translated into terms of physiological mechanism, that is, vital mechanism. But the practically important point is that as yet we do not know enough about the nervous system to do this and hence such translation is for the present impossible. The fundamental facts of our mental life are the dominance of need and desire within it, the fundamental part which satisfaction and dissatisfaction play all through it. Now, of the actual neural correlates of these fundamental functions we know almost nothing at present. We can construct hypothetical explanations in terms of the nervous system if we choose, but we have to remember that these hypotheses actually rest not so much on observed neurological facts as on the psychological facts themselves which we seek to explain; nor am I acquainted with any such systematic attempt which has been countenanced by a competent physiologist. The situation at present in regard to our knowledge of cerebral function may best be expressed in the words of one of our most brilliant living physiologists, Professor Sherrington:

> By the use of such methods (the methods of experimental physiology) little light is given in regard to much that goes on in an organ whose chief function is mentality itself. Our expectation must be modest, for modest assuredly must be the achievement reached by such means

in a problem of such a nature. The very poverty of the achievement is itself an indication that the methods pursued by the physiologist successfully in other spheres of his study are here confronted with problems to which they are far less suited. It is not that I esteem lightly the labours of the many distinguished workers in this field. As far as the methods referred to can avail, it is to the skill with which they have been used that we owe what knowledge we have of the topographical representation of movement in the various fields of cerebral cortex. . . . (But) the student looking over the political map of a continent may little realize the complexity of the populations and states so simply represented. We, looking at the brain chart of the text-book, may never forget the unspeakable complexity of the reactions thus rudely symbolized and spatially indicated.—"The Integrative Action of the Nervous System," pages 269 and 270.

He says later:

Physiology and psychology, instead of prosecuting their studies, as some now recommend, more strictly apart from one another than at present, will find it serviceable for each to give to the results achieved by the other even closer heed than has been customary hitherto.—Page 387.

It is one of the special claims of medical psychology to attention, not that it has over-set, for it could not over-set, a single well-established physiological doctrine, but that the men to whom we owe it, have opened paths of rational investigation where few or none existed before and have demonstrated the possibility of following these paths to conclusions which both rest on and are confirmed by the last authority in scientific matters—experience.

## OBSERVATIONS ON DYSENTERY BACILLI OF THE SONNE TYPE.

BY S. W. PATTERSON, M.D., D.Sc.,

AND

MISS F. E. WILLIAMS,

*From the Walter and Eliza Hall Institute, Melbourne.*

DURING the summer of 1920-1921 we isolated a type of dysentery bacillus which, though apparently at first one of the Flexner-Y group (as it produced acid in mannite broth), on further investigation proved to conform to the description and characters of the organism isolated in Denmark by Sonne.[1] This bacillus was found by Thjøtta[2] in twenty-five cases of dysentery in Norway and was called by him Type III. dysentery bacillus.

### Bacteriology.

On MacConkey plates incubated for eighteen hours, this bacillus appears as small, round, smooth, translucent, colourless colonies which closely resemble those of *Bacillus dysenteriæ* (Flexner). After further incubation, the colonies of the Sonne bacillus are larger, more opaque and have a somewhat irregular outline, but remain colourless (see Figures I., II. and III.). The bacilli are non-motile in broth cultures and form acid, but not gas in mannite and glucose broth. In lactose broth there is no change apparent when litmus is used as indicator, even after incubation for three weeks; a more sensitive indicator, *e.g.*, Andrade's, however, shows formation of acid about the ninth to twelfth day of incubation. The bacilli are agglutinated by Flexner-Y serum, but only in low dilution (to not more than a quarter of the titre of the serum). Cultures were found to be pathogenic for rabbits, causing death from toxæmia within thirty-six hours. In the animals which survived longer, death occurred about the seventh day and ulceration of the intestine was found *post mortem*. Guinea-pigs are also killed by inoculation with this organism. Rabbits can be immunized against this bacillus and the sera produced are remarkably specific, agglutinating to titre all six members of the group that we have so far isolated, but having practically no effect on the remainder of the typhoid-dysentery-colon group.

### Clinical Data.

The original patient from whom we isolated the Sonne bacillus was an aged, wasted man, admitted to the Melbourne Hospital in December, 1920, suffering from diarrhœa (six to ten stools daily) of two to three months' duration. At the *post mortem* examination eight days later, an early carcinoma of the pylorus was found. There were patches of congestion in the small intestine. The large bowel in the ascending and descending parts showed general thickening of the coats, congestion and pigmentation of the mucous membrane and some ulceration of dysenteric type mixed with patches of healing and scarring. MacConkey plates inoculated from the sub-mucosa gave numerous colonies of the bacillus.

The next patient was a man who had had amœbic dysentery during the war and had undergone prolonged courses of treatment. He had been free from dysentery for three years until an acute attack of abdominal pain occurred, followed by frequent evacuations of blood-stained mucus accompanied by much tenesmus. No amœbæ were found, but almost

| Agglutination Titre. | Total. | With Muco-Pus in Fæces. | Duration and Other Findings. |
|---|---|---|---|
| < 1: 10 | 55 | 2 | (*i.*) Nine months, blood, *Entamœba coli* cysts; (*ii.*) three years, tabes, anæmia |
| 1: 10 to 1: 20 | 9 | 1 | Two months, *Lamblia* |
| 1: 20 to 1: 40 | 14 | 2 | (*i.*) Four days; (*ii.*) four weeks (*post mortem*, ulcerative colitis) |
| 1: 40 to 1: 80 | 13 | 1 | Recurrent attacks |
| 1: 80 to 1: 160 | 12 | 3 | (*i.*) Eight days; (*ii.*) five years; (*iii.*) two weeks, jaundice |
| 1: 160 to 1: 320 | 12 | 4 | (*i.*) Pregnancy, enteritis; (*ii.*) two months; (*iii.*) sixteen years, pernicious anæmia; (*iv.*) five weeks, blood |
| 1: 320 to 1: 640 | 13 | 6 | (*i.*), (*ii.*) and (*iii.*) chronic for years; (*iv.*) nine weeks; (*v.*) six weeks; (*vi.*) five weeks |

a pure growth of the Sonne bacillus. The attack was a mild one and on eliminative treatment subsided within a week.

Our third patient was a young woman who was the subject of an acute attack of colitis. She had not been out of Australia. MacConkey plates inoculated with fresh muco-pus from the fæces gave a pure culture of the Sonne bacillus. On several further examinations of the stools being carried out, no other pathogenic organisms could be isolated, but large numbers of colonies of the Sonne bacillus grew. This patient was severely ill and took some weeks to regain weight and normal health.

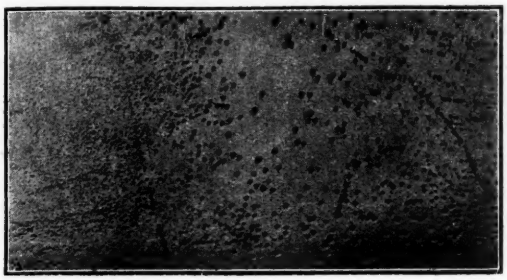

FIGURE I..
*Bacillus dysenteriæ* (Flexner), eighteen hours.

The Sonne bacillus was isolated from three babies with ileo-colitis. For one of these cultures we are indebted to Dr. Reginald Webster, Pathologist to the Children's Hospital, Carlton, and for another to Dr. Beare, of Adelaide.

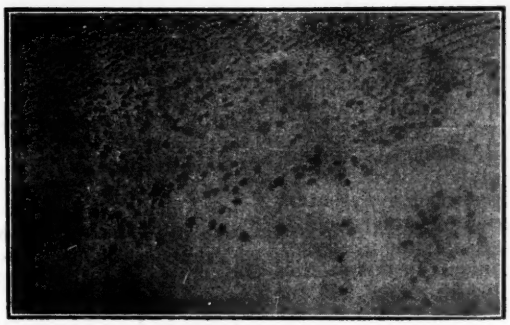

FIGURE II..
*Bacillus dysenteriæ* (Sonne), eighteen hours.

### Diagnosis by Agglutination (Widal Reaction).

No agglutination tests with the patient's blood and the bacillus were done at the time; but the serum of our third patient showed no agglutination five months after the onset of the disease and four months after her recovery.

During the next summer, 1921-1922, very few cases of dysentery occurred and we failed to isolate any further bacilli of the Sonne type. Agglutination tests with sera of patients and different types of dysentery bacilli, including the Sonne group, however, were carried out. Our method was to dilute the sera in geometrical series with normal (0.85%) saline solution and to add equal parts of a formalinized emulsion of bacilli; to place these mixtures in a water bath at 56° C. and to read the degree of agglutination at the end of four hours. It was necessary to establish a degree of agglutination which might be considered as likely to occur in patients and also a degree at or above which there was likelihood of a specific reaction to and infection with the Sonne bacillus.

FIGURE III..
Mixed Growth after Forty-eight Hours. The colonies of Sonne's bacillus are larger and more irregular.

In Thjøtta's hands,[3] tested in normal human sera, the strains of the Sonne bacillus "never showed the slightest sign of agglutination," while eleven sera from patients suffering from infections with strains belonging to this group were examined and "one showed an absolute negative reaction, while the others gave positive tests in a dilution of serum from 1:10 to 1:80."

We have carried out agglutination tests on the sera of one hundred and twenty-eight patients. Most of these were sent to the laboratory for Wassermann or hydatid tests and for Widal reaction in typhoid fever. Nineteen of the sera tested were from patients having muco-pus in their fæces. A summary of results is set out in the table.

It will be seen that of thirty-seven patients whose serum showed an agglutination titre above 1:80, thirteen had a history of diarrhœa for varying periods and the stools on examination were found to contain muco-pus, while of ninety-one patients whose serum agglutinated the bacillus in less dilution than 1:80, six only had muco-pus in the stools. One of these, whose serum agglutinated the Sonne bacillus at 1:40, had had diarrhœa for four weeks. At the *post mortem* examination an ulcerative colitis was found of dysenteric type, but no dysenteric organisms were isolated. Among the ninety-one patients were eight with typhoid fever, all agglutinating the Sonne bacillus in a dilution of less than 1:50.

Until patients are found whose stools contain or have contained the bacillus and whose serological response is known and followed through, we can only adduce the dictum that in acute conditions diagnosis should be by isolation of organisms from

the fæces and in chronic conditions by agglutination. We suggest that the table would lead us to expect in instances where agglutination occurs in a dilution of 1:80 to 1:100 or more, that a possible ætiological connexion will be found.

**Summary.**

We have found in cases of colitis occurring in Australia, examples of a bacillus which constitutes a third group of dysentery bacilli, other than the Shiga and Flexner-Y groups. It is pathogenic for man and animals. Bacteriologically it is easily confused with dysentery bacilli of the Flexner-Y type, but is a slow fermenter of lactose. It is agglutinated in low dilution by Flexner-Y agglutinating sera and up to a dilution of 1:1,600 by the Commonwealth Serum Laboratories' polyvalent dysentery serum, which is made with an antigen containing representatives of this group. In a series of observations of normal and diarrhœic patients we find that agglutination of the patient's serum with this bacillus at a dilution of 1:100 or more may mean that the patient is showing a specific response to that organism.

As we are making further studies on dysentery in Australia and are anxious to determine the incidence and characters of the dysentery bacilli found here, we invite clinicians to send us blood (two cubic centimetres in a Wassermann tube) for agglutination in cases of diarrhœa and suspected dysentery and we would ask the cooperation of bacteriologists in the investigation. We wish to include all dysentery and pseudo-dysentery organisms in our studies and would be obliged for sub-cultures of all the usual and anomalous dysentery bacilli isolated. We should be pleased to send formalinized emulsions of the Sonne bacillus for use in agglutination tests and a sub-culture of the bacillus.

**References.**

(1) Sonne, C.: *Zeitschrift für klinische Medizin*, 1915, *Band* 89, *Seite* 73 (cited by Thjøtta).
(2) Thjøtta, T.: *Journal of Bacteriology*, 1919, Volume IV., page 355.
(3) Thjøtta, T.: *Journal of Bacteriology*, 1919, Volume IV., page 361.
(4) Patterson, S. W., and Williams, F. E.: *Journal of Pathology and Bacteriology*, 1922, Volume XXV., page 393.

## THE PRACTICE OF MEDICINE IN THE IMAGINARY CITY OF UTOPIAVILLE.[1]

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MY earnest invitation honoured, the obligation to entertain you to the best of my ability was my part of the programme. I cannot do it as I would like to, but you were indulgent before and I hope you will be again this time.

I had no subject for a lecture. I asked our good Secretary once for advice; he answered me with one of his broad and bright smiles that say so much without a word. I understood; I had to make one and I did. I invented one. My invention is my child; then, with all its defects, you will be kind to it on account of the goodwill of the father.

But before I came to this, I pondered in my old box a long time. What subject is most likely to please my friends? The professional interests are always of the order of the day, but so many treat this subject better than I can. I put it aside. A work on some scientific subject, perhaps! But what can a poor country practitioner do in that field? I remembered two circumstances where I had been more or less appreciated with my scientific dissertations, rather less than more. In one of these, my audience was shining more by quality than quantity, as it was composed of only one person. I was sure at least that the opinion of my audience on the merit of my arguments could not be divided. I commenced then with pompous oratory to communicate to my genteel listener the result of my work on what I thought to be an interesting subject. I went on for a few minutes, when my charming audience injected: "Yes, it is very interesting, but if you don't mind, you can talk as long as you want to; for me, I'll turn over and go to sleep!"

In the other circumstance I had prepared something good, without any damage to my modesty I dare say, very good. I had read and studied much, made lots of quotations, demonstrations; nothing was wanting. That was precise, clear, luminous, instructive, practical and especially scientific. I was proud of my work and of myself. I imagined that those present were drinking my words, my sentences, digesting, assimilating them, and were swelled by a good dose of good new ideas. At last I finished and modestly resumed my seat, expecting to savour the felicitations which, assuredly, could not fail to come. I waited for some time. Then a *confrère* arose and said: "I congratulate the doctor for such a fine *travail* and so well written, too. He has gratified us," said he, "with a very learned dissertation, which must have cost him an immense amount of work, and we must encourage study, you know. I congratulate him heartily. As to the merit of the paper itself, to be frank and honest, I must say that I have not understood a single word of all what he said." I realized that my address of about an hour and half had resulted in pure loss of time. I have met with others of the same experience since then, though at times more gently rewarded. To find myself in good company is my only gratification. No, no more scientific subjects for me! I leave them to someone more able than I am, who may be applauded to-day and contradicted to-morrow, perhaps. This has happened many times the last forty years; we are advancing so fast, the solid theories of to-day may be replaced by new ones to-morrow.

I have heard a *confrère* say once: "I have nothing to learn, nothing to teach, then, do not expect me at your meetings; I don't want to be bored by scientific nonsense and show it." I know very well that I cannot teach you anything; but I have learned many good things from you. Anyway, we are not here for that purpose alone. Our reunions present enough advantages without the discussion of intri-

[1] Read at a meeting of the Ipswich Medical Society on September 21, 1922.

cate subjects. The fact that they give us the opportunity of knowing and appreciating each other better is enough to induce all of us to support them and never to miss a meeting, if possible, let the entertainments be as they may, instructive, attractive or not.

But my question is not answered: What subject shall I choose for a lecture to-night?

Putting aside professional interests and science, in what pond shall I fish for a subject? A deep meditation brought me to a sleep as profound as its cause and while peacefully in the arms of Morpheus, an idea struck me: I shall make a work of imagination, a novel. That is why I will try your patience to-night by saying a few words about the medical practice of Utopiaville.

I commence! As all novels with a sense of self-importance and the hope of commanding respect start with a description of the locality and people where the narrated facts are supposed to have taken place, some notions of the personality connected with the reported events which are proposed to interest us, I will begin that way.

Utopiaville is a charming little city, situated amid hills and valleys, greenish vegetation, most agreeable to the eye and suggestive of well-being; on the edge of a stream of clear water, which affords its people the means of rinsing themselves inwards and outwards according to the strict principles of modern hygiene and get rid of their poisons. Its streets are the best production of the Main Roads Board, free from dust and mud the year around and extending far into the surrounding country, through which flows abundance to and fro. These roads are so perfect that occasionally they have to be scratched with sandpaper to take off the gloss and to keep motor-cars from skidding on them. They are spacious, broad, of easy grade everywhere. They have attained that degree of perfection gradually in the midst of fights against and between authorities for many years. As all the fools have had a go at them, they have cost as much as if paved with gold; but people are satisfied now; they use them freely at so little expense and are quickly regaining their loss.

Enjoying a trip on them, one can see a great number of well cultivated farms and gardens, admire many pretty residences, houses of all kinds and descriptions. In Utopiaville there are churches, hotels, houses of education, shops and stores, well kept parks, private and public hospitals, free or for fee as the case of the patron may be, *et cetera*. The population reaches about sixty thousand all counted, suburbs and surrounding districts fifteen miles around. The adjacent districts are populated mostly by farmers who, thanks to the good roads described, have an easy access to the city, where they exchange their produce for the goods they need. In the city proper men carry on the usual occupations of city folk. We find there working men and women, merchants, clerks, many lawyers and officials of different kinds, vagabonds, maniacs, blackguards, thieves, *et cetera*. But to resume it all, as in other places, there are but very few intelligent people and they are not in important positions either. Imbeciles and croakers instinctively keep high offices for themselves, so long as they have the votes. When occasionally a bright man is met with—they are as rare as black tickets in a lottery—it is at the foot of the ladder; generally speaking, the fools compose the governing bodies. Utopiaville in this particular is like other places on this planet. One can see here also but a few good permanent organizations. The ignorant cannot unionize without overdoing things and make fools of themselves; and well educated men are too nervous, too sensitive, sometimes too egotistic for the formation of lasting associations and to keep concord among themselves. But we find an exception here. There are fifty-six medical practitioners in the city and district, well united by the solid ties of friendship and common interest.

It is here that the case is becoming remarkable and interesting. These men must be very intelligent, more so than in many other centres, as they have come to organize themselves in such a way as to live a normal life; they have forced Dame Fortune to restrict her whim and smile at them. They are all well off and contented. They deserve that we should consider the miracle accomplished, admire them and, perhaps when practicable, adopt some of their ways.

The doctors of Utopiaville, without suffering any loss from it, work during the day and have their night for sleep; they eat at meal times, can have a holiday every year, rest a day each week as the Lord has ordained. They visit and receive their neighbours when they like, do anything they please, without being deranged by a sudden call or the ring of the telephone. In a word, they live like other folk do. They make money, too. They collect enough to live as gentlemen do, because their patients pay them well. They take a post-graduate each year; in fact, it is obligatory for them to do so, besides taking an hour every day to refresh and increase their knowledge, keeping their thinking machine free from rust. They have time to divert their mind to some hobby of their choice, a change of exercise and a rest. But things have not always been that way in Utopiaville; like everywhere else, our *confrères* there have dragged the devil by the tail a long time. The pleasant life they enjoy to-day is due to their common sense and their energy.

To form an idea of the transformation achieved by our brothers there and compare, one must know how things were before they set to work with a determination and a patience worthy of all praise and of their success. I found it difficult to gather information. Doctors are not talkative, as a rule, because they are thinkers. They are not inclined to divulge their past mistakes nor boast of their present prosperity either. They are not men to blow their own trumpet, according to a slangy expression. Over three-quarters of the people do not notice these things; the observant ones, in reverence for the existing conditions, have buried the past and forgot it. Suffice to say that relations between doctors and the status of practice were not of the best. I intend to omit the nine-tenths of it. It is not pleasant to find the most noble of all professions at fault, even by an excess of love for mankind and

duty; because we can easily guess what good men prompted only by their feelings may do; because pictures of the profession at its best or at its worse give a sufficient idea of what the reverse is; because we are more or less acquainted with the dark side of the case. Men, especially well trained men as doctors, are guided by their reason. But if that faculty is over used or too much burdened by an excess of work for scientific attainment in the most difficult of circumstances, often by deception and worry, we fatally become victims of old routine and indifferent to our mutual condition of life and to the way it can be improved. We soon forget that self-discipline with regards to our brother's welfare and our own is also a science, the most important one for us, perhaps, worthy of all our efforts. The consequence is easy to understand; too much wind in the sails, insufficiency of rudder for the impetuosity of the waves; a shaky course all the way, with a wreck at the end for many of us.

The origin of the change can be traced to a small local association that progressed slowly at first on account of the indifference of a few. But soon the benefit derived from its membership became so apparent, its motives proved to be so unselfish, its talks so instructive and potent for good results, that it became imperative to join it; nobody wanted to remain behind. It was a model of a society with a strong, concentrated will, a focus of practical education and brotherly understanding. All interesting subjects were discussed there, many evils corrected, many daring resolutions passed and adhered to as unbreakable laws; all alleged grievances melted away at its meetings like ice under the sun. By its influence new ties of friendship were made and cemented every day. This little society, classed as insignificant at first, became a great power, commanding at the same time respect and improvements, influencing other bodies when cooperation was needed. Soon it put a stop to the refilling of prescriptions, a restriction to the advertisements of nostrums, *et cetera*. More conscious of its own power, it became more aggressive as it went on and one by one reforms were accomplished. With an unflinching will it abolished contract practice. The fight here was hard, but decisive. Doctors were imported under fallacious pretences, but they soon recognized their false positions and joined the society. Then, the friendly societies formed for the purpose of avoiding being sweated, saw that they could not sweat their medical attendants any more, as it was a question of going many miles away for aid with uncertain or impossible result.

"Nothing succeeds like success" says a well-known proverb. The victories of our *confrères* of Utopiaville inspired them with bold and sweeping ideas. They formed themselves into a cooperative association, with wise rules for their guidance. They erected a large building in the most convenient part of the city and equipped it with all things necessary for a quick and correct diagnosis, electricity, X-ray plant, cardio-graphic apparatus, testing apparatus, laboratories, with all necessary instruments for the members. Later on they opened a dispensary there. Having acquired facility in the handling of drugs, they conceived the idea of putting on the market for their own benefit the equivalent, with much improvements, of all patented medicines sold to the public by quacks. They paid higher prices to the distributors, with the result that each time a medicament of that kind was asked for, the preparation bearing the seal of the medical society was offered in its stead. The advertisements put up by quacks made their sale and went against the nostrums for which they were intended. It proved to be an unprofitable business for the charlatans to advertise and they soon were driven out of the field. Advertisements and quacks disappeared in a short time. So, our brothers of Utopiaville converted a great foe into a paying proposition for themselves. They thought it no lack of decorum to fight a dangerous enemy of mankind with its own weapons.

Now they have all transported their offices and consulting rooms in this building—the medical building. No more work at home! They have there large reception and waiting rooms, a well organized staff of nurses and servants; all their cases are handled with accuracy and celerity and, if the help or advice of a *confrère* is needed, it is always at hand without any displacement or extra work. The danger of criticism and attacks from outside has disappeared; solidarity in practice combined with sociality renders the work safe as well as pleasant for them. The practitioners having dispatched consultations and visits in a pre-arranged time, have the rest of the day for themselves.

The doctors of Utopiaville do not keep books. The system of practising on credit is unknown there. They get the cash as soon as an attendance is over. Should it be impossible for a good reason, the patient has to sign a promissory note before he leaves the office. A bunch of blanks is always kept on hand and it is the patient who does the writing now, not the doctor. The specified time for payment arrived, these notes are given to the bank or collectors and soon converted into cash. People do not mind it; they rather like it. When they go to their doctor, they fill up their pocket with coins, just as they do when in need of a railway ticket or other things. If by accident they are taken unaware, they know what to expect; they have become used to it, they do not mind.

In Utopiaville, like everywhere in this world, there are parasites, living on the good dispositions of other people, but the doctors do not see them any more. They cannot as before go to one physician after another, leaving an unpaid account to be remembered. A list of these suckers is provided from time to time by every practitioner to his *confrères* to keep them on their guard, save their time and pills. The first think a black-listed patient is expected to hear when consulting a doctor is: "You have not treated Dr. Soso well. Go and settle with him first. Then you can come to me if you wish, but do not forget your cash!" When a person cheats a doctor in Utopiaville, it is always for the first and the last time.

Another thing they do not suffer any more from in this blessed little city, is the abuse of charity, which is destructive of the doctor's well being and corrupting the character of the people, who end by

believing that the community or some institutions are obliged to support them. I do not know if the doctors are the most charitable of all classes of men, but I do know that they make more sacrifices for charity purpose than any other class, profession or member of the community. Every contribution, every subscription to all so-called charity schemes, even those put up to reduce or cut off their legitimate practice, must be honoured by the local doctor or the tongues will be after him and make him lose more some other way. Especially in little townships, the doctors are the target for all malevolent talks of common folk. It is not rare to find a medical man with 20% or 30% of his revenue flowing away through that channel. That practice has now ceased in Utopiaville. All donations by doctors in money, time, experience and ability has to be approved by a committee of their own, through the hands of which free cash must pass. You will think it is right, too. We would protest with indignation against any suspicion of our integrity; we hate fraud. Still, according to the existing conditions in which we live and for which we are often responsible, we must admit to ourselves that we are not always honest. The first and greatest of frauds, the most unreasonable one, too, is for a man to cheat himself and we do this freely, blindly, constantly. We steal from our own pocket or leave it opened in front of the thieves, inviting them to put their crooked fingers into it.

In Utopiaville there is a large charitable institution, a general hospital, kept by public donations. It could not exist without the medical profession's goodwill. In times gone by, anybody was admitted there without any ceremony other than the presentation of a card. Anybody with enough cheek was treated there gratis by the good doctors, who willingly gave their time and experience, the best of their lives, for nothing except unjust criticism, perhaps, and the pleasure of seeing a patient well able to pay abusing a privilege which ought to be reserved for the poor. In other words, the doctors were cheated of a large amount of their legitimate revenue under false pretence. It was ascertained that the richest man of a district did not even blush when refusing help to the institution after three months of free treatment there; that another one with ample means went out of the institution with health and money saved and soon afterwards paid up in advance to a notorious quack £80 for the "cure" of an incurable disease in his family. The abuses were great and common. Why should they pay for medical treatment when it could be had for nothing? The appreciation of anything is in proportion of its cost. What does not cost anything, is often not worth a "thank you." No more abuse of this kind now in Utopiaville! It was stopped in time, too, as people were getting more and more used to it. Instead of the free card system, the following rules have been adopted with satisfaction all around. All emergency patients are admitted there by the medical attendant, subject to an inquiry concerning their means and ability to pay the doctor and hospital cost in full or in part, so that no person may suffer from stringency of rules. Other patients are admitted by the resident doctor on the recommendation of a local committee formed of several notable citizens of the city or country places, with the local doctor as chairman, his signature giving value to the certificate, on which is stated the amount a patient can pay for medical and surgical services and for hospital care. That amount is collected and paid to the resident or attendant doctor above any retaining fee, the general hospital keeping its share.

The medical men of Utopiaville are united and have things "pretty well" their own way now. But before they awakened to their much compromised interests, their own dependants and servants, the nurses, had agitated for and obtained laws and court awards for themselves. For a long time Mollie Lazibone and Winnie Wontwork held the best end of the stick in their fight with their superiors and the fate of the hospitals, public and private, was in their hands.

Medical laws existed there at that time, which acted like an iron collar to the regular and a protection to swindlers, who could advertise and catch the people under some fancy names, herbalist and so on, and practise medicine at their very door with a revenue proportionate to their boldness and dishonesty; a revenue worthy of envy to many regular practitioners. With the help of the "dailies" as advertising mediums, not only the most shameless of quacks, but Mother Grundy, the fruiterer, the grocer, the druggist, the patent medicine man, all had their fingers in the pie for a big piece of it, leaving only the hard crust for the regular doctor to chew. In many instances the doctor had to treat patients for charity sake, rendered destitute by the quacks' previous robbery. These unfortunates were bled white and left in a hopeless condition for the physician to treat and fail, for nothing in return but a damaged reputation: "Nobody could have done worse; the man is dead!"

And the nurses, do they practice medicine? Our *confrères* of Utopiaville are well informed on this subject. A physician with a nurse out of his control in his place cannot count on more than half of his practice, perhaps not as much in revenue; but in exchange he has many vexations. His competitor—forgive the word—does not get the other half; she spoils it for a pittance and the satisfaction of her vanity. He will see no more mild cases, only the fatally compromised ones. The ignorant can judge only by results and taboo the doctor.

We sometimes think that because we have attained a high degree in science, we are inaccessible to attacks and indifference. Error; immense error! On our science applied to duty performance depends our satisfaction, our moral success; our pecuniary or material success depends on "how ignorant folks are looking at us." We have advanced, but people have not; our relations with them remain the same as they were a century ago; and it will take a few more centuries before many people can see any difference between a regular doctor and a broomstick.

At first the doctors of Utopiaville did like the rest; for humanity sake they helped to manufacture bush nurses in great number and send them everywhere under law and government protection. They

have learned by experience since the same relation exists between nurses and doctors as between white and black labour. It is a sad truth, medical men cannot compete with them. In the mind of ignorant people they are on the same footing as doctors; so are quacks; all are persons treating diseases. I do not want to establish a parallel between physicians and nurses; but, my friends, we were watching an eclipse to-day; it has taught me a lesson. No matter how brilliant an object may be, it can be eclipsed by any opaque body much inferior to it, at any time. Nurses are insidious, cheap, ubiquitous and can talk two hundred to the dozen. No matter what happens, public sympathy will be with them; the law will protect them. They flourish when alone, but the place of their exertion is spoiled, will never more be fit for the establishment of a medical man. Now that our *confrères* of Utopiaville have opened their eyes; very late, alas! they are trying to repair their mistake. It is a tedious job. I love nurses—I married one—but in their place and well controlled.

When will old women be debarred from attending obstetrical cases to the detriment of the medical profession and the public? I suppose, when we all want it. Without doing anything, we speak of educating the people; they never will be educated on that matter.

The doctor has always been a good fellow, never seriously objecting to lose an important part of his domain, providing the thief is not another doctor. That is the way dentistry slipped out of the hands of general surgeons years ago. After the pedicurists, herbalists, optometrists with a long list of bogus specialists came and the new arrivals seldom remain in their invaded field. The most successful optometrist I have known, made his money by treating piles. He landed there one day while looking for an eye. So did a dentist I have known well, struck by the existing analogy of the two orifices of the alimentary canal when the teeth are gone. The practice of medicine is assailed on all sides. Our laws are worded in such a way that it is very hard for some regular men to-day to enter the building by the well guarded door; but the windows are left wide opened for the convenience of thieves and burglars, besides cracks in the walls to accommodate vermin of all kinds. The good man inside are preparing a hard time for themselves, unless united enough to resist the foe. We are sometimes alarmed at the plethora of the profession; too many doctors? It is not so. The Utopiaville practitioners say there is room in their little city for many more, because the whole art of healing the sick and preserving the health is falling back into their hands. Their motto is: Come brothers, help us clear the building of the intruders!

Strange to say, these mediæval laws, protecting quackery instead of the profession, had some supporters among the old doctors of Utopiaville before the *entente* took place. Some of us cling to antiquated practices and fashions imported from dear old country, like our ridiculous system of currency, our awkward weights and measures, our mania for passing to the left while the world keeps to the right and so forth. This last fad is responsible for many catastrophes, like the blowing up of the city of Halifax during the war. Still, we remain attached to them. Our brothers there, unanimously and seriously bent on reforms, had more time than we have. They ventured to tickle Mrs. Politics for one of their amusements and soon forced her to smile at them. They were surprised to find among themselves the best brains, the greatest statesmen any country can possess. They got control of legislative matters and obtained laws with the seal of wisdom at the corner of each bill, inspired by themselves, not lawyers this time.

When court experts are required in Utopiaville, they are chosen by the medical society, not by fighting parties, barristers or judge. No more scandalous contradictory evidence to justify the too common insulting remarks of lawyers: "Doctors disagree!" They have a tariff made by themselves; no one can be compelled by any authority to attend court cases at ten shillings a day or make an autopsy for two pounds.

The doctors of Utopiaville have not forgotten their own amusements. At a well chosen place on the seashore, they possess in common blocks and cottages where the sick and the tired ones can retire with their families and enjoy a recuperative rest at a nominal cost. They also have fishing and hunting grounds in the woods and in the mountains for the same purpose, where many each year can go and have a good time at a very small expense. By mutual subscription, now that they have means of doing it, they have created a reserve chest for the aged and the sick ones, or to face any emergency, any unexpected misfortune that might strike one of their numbers.

Our brothers of Utopiaville have done many other things, too long to be mentioned in this paper. Their city is not heaven, but they made it as near to it for themselves as it can be on this planet. These conditions were brought on by union, cohesion, an untiring devotion to one cause: the amelioration of their position, coupled with the protection of a reckless public. Rivalry, jealousy, envy, petty fault-finding are unknown in Utopiaville.

Ten medical practitioners are located in the country and suburbs, forty-four in the city proper. They are all well loved by the people; they are all contented and the most talented men of the community.

Seven of them attend to emergency cases, two at the public institution. These have the hardest part of the business; but they do not care, as this duty is performed by the youngest and it pays them well in money and experience. In fact, between spells of hard work they manage to have a good time; they can read, play and tease the nurses for a pastime. Sixteen do the regular surgical and medical work in the general or their private hospitals or in the medical building, with an occasional displacement for obstetrical cases. All orders for visits come there and are made immediately after consultations at specified hours. Two have charge of anæsthetics. Two pathologists, doing research work, two ophthalmologists, rhinologists, *et cetera*, two radiologists—electricians. Two are on reserve to

replace any one who may be suddenly called out on duty. I have given a certificate of sickness to three. That leaves ten of them constantly out of practice, having a holiday or engaged somewhere in study. That gives each one two months' holiday each year.

That curriculum is constantly changing as far as possible in order to give everyone the same chance in his turn.

I must say that the specialists, not having to be bothered by general practice, have become experts in their line and are consulted from a long distance around. In fact, most practitioners are specializing more or less according to their taste, some in nervous, lungs, heart diseases, *et cetera*.

It is a fact that doctors who do not work enough to live well, are rare; but to find one who cannot collect enough to be in comfort, is quite common. I did not find any of these in Utopiaville and I call it a blessed city for medical practitioners.

I hope, my friends, you will forgive me for that little excursion into fairyland. It is not done in view of any suggestion whatever, but as a pastime. I know very well that our time for sweeping reforms has not yet arrived. When it does come, more able men than I will suggest them and command our ship. For supposing the possibility in our days of a status of practice at all comparable to this fiction, you may send me to Goodna. But many a change of human condition in human history owes its origin to a dream. After the dream comes the conscious thought; of the thought spring resolutions, which in turn give birth to action. If these have for sisters patience, perservence and wisdom, gradually but surely some good will come of the dream.

It is undeniable that the medical profession today gets much less than its due in consideration and financial reward. Without fear of being contradicted I say it is the most learned, the most necessary, the most noble and most overloaded with hard work and responsibilities; at the same time, it is the least remunerated of all professions. In adverse conditions it has many enemies to face; they are numerous and everywhere. It is also certain that a change in our favour, a victory, can only come through our efforts, individual and combined. Reforms will germinate and develope in our medical societies, nowhere else. Let us be more interested in them! Let us support them with all our might!

## Reports of Cases.

### SOME DISLOCATED LENSES.[1]

#### A LESSON ON "COUCHING."

BY J. LOCKHART GIBSON, M.D. (EDIN.), M.R.C.S. (ENG.),
*Brisbane.*

Two years ago I was anxious to show a patient exhibiting the effect of "couching" for cataract, but the condition became worse and the eye had to be removed before it was convenient to show the patient. To-night I am able to demonstrate what occurred by means of the enucleated eye. My desire to demonstrate it has been increased by the possession of two other patients with displaced lenses. They demonstrate other points. I am also showing an instance of simple cataract extraction as a contrast and to illustrate a point in refraction.

I. Mrs. M., aged fifty-seven years, was sent to me by Dr. Eland Shaw. Her right eye had been struck by a piece of wood. The lens was displaced backwards and downwards into the vitreous chamber. There was no increased tension at first. In a month's time, when the other effects of the blow had passed off, the eye with a correction of + 12 dioptres had a vision of $^6/_{12}$. This vision was maintained to my knowledge for three months. I did not see her again until a year after the accident. The eye by this time had become painful, the pain was circum-orbital in character. There was also glaucomatous tension. Vision had decreased and the patient could only count fingers at a distance of thirty centimetres (twelve inches). The optic disc could be seen to be cupped to a depth of four or five dioptres, *i.e.*, to between one and two millimetres. The lens bobbing about in the ciliary region had induced glaucoma and consequent loss of sight and of the eye. This is what may be expected from the so-called Indian couching operation for cataract, unless the eye happens to be lost still earlier as a result of infection carried into it by the probably septic instrument used for dislocating the lens. In other words, although the immediate result may be characterized by good vision, blindness will almost certainly be the ultimate result. The eye has been hardened in 2% formalin and mounted. I can show you the displaced lens in position and it is easy to note the cupping of the disc in the specimen. The vitreous was partly fluid; the retina was beginning to become detached.

II. A married woman, aged fifty-nine years, was sent to me in 1911 by Dr. J. A. Cameron, of Ipswich. She had received a blow on the left eye by a piece of wood three months previously. I found the pupil widely dilated, due to paralysis of the sphincter; a result of the blow. The lens was found to be clear, but to be displaced backwards and downwards behind the iris, not quite so far backwards as in the last patient. The fundus could be seen by the interposition of a convex lens of thirteen dioptres and vision with this lens was $^6/_{18}$. The eye gave little discomfort. No treatment was advised. I saw nothing of her again until May of this year, *i.e.*, eleven years after the injury, when Dr. Cameron again kindly sent her to me. She had suffered no trouble with the eye until six weeks before, when Dr. Cameron had noted that the now cataractous lens had appeared suddenly in the anterior chamber. He advised her to see me, but before she could do so the lens had moved back to behind the iris. It reappeared later in the anterior chamber, however, and I saw her on May 29, 1922. The anterior chamber was occupied by the cataractous lens in its capsule. The pupil had remained dilated since the original blow. Tension of the eye was increased. Eserine failed to cause contraction of the pupil. On the same day, that it might not have a chance of disappearing again, I made with a Graefe's knife as large an incision as possible without injuring the capsule of the lens. I had to enlarge the incision at each end with a De Wecker's scissors. As expected, a little vitreous appeared at once in the wound. The lens was, therefore, extracted by a spoon and practically without further loss of vitreous. The result is a comfortable eye and the vision, when corrected, is $^6/_{12}$. I am able to show you the lens in its capsule. It is fortunate that the result has been good, as the patient is now seventy years of age and the other eye is developing a senile cataract. Ultimately she will be able to rely on the injured eye. I imagine that in the very rare cases in which "couching" for cataract yields a good result, the displacement of the lens has been like that which occurred in the case just discussed. The irregular native "Indian eye doctors" who perform this operation, rely on immediate results and no doubt blame "Allah" for the remote results: consequent blindness.

III. Mr. G., aged thirty-seven years, was sent to me by Dr. A. C. Ward in May, 1921. On the day before the end

[1] Read at a meeting of the Queensland Branch of the British Medical Association on October 6, 1922.

of a whip had broken off and struck him on the right eye, on the nose and the cheek below the eye. The eye was injected and chemosed. There was no wound of the cornea, but the whole cornea was opaque and marked in a mosaic-like manner. The pupil was absolutely dilated, due to paralysis of the sphincter: a result of the blow. The cornea cleared in a few days sufficiently to admit of further examination. The lens was found to be dislocated obliquely backwards. During the next month the eye settled down and injection disappeared. The lens became increasingly opaque. An attempt to remove it would have meant a great loss of vitreous and probably loss of the eye. Also even a successful removal of the lens would have left the eye with such a large pupil that annoyance would have been caused by flooding of the retina with light. I decided that the lens, though displaced a little backwards, could still be dissolved by the aqueous humour even at thirty-seven years of age and that it would be desirable to preserve some remains of the cataractous lens that it might reduce the size of the pupil. The lens was needled several times. It will be seen that a sufficiently clear pupil has been obtained above the upper edge of its remains and that this remaining part occupies the very large pupil in such a way as to prevent flooding with light, though it does not add to the cosmetic result. The remainder of the lens will diminish still further in size, but sufficient will persist for my purpose. In August last, with correction, the eye had a vision of $^{6}/_{36}$. It is quite comfortable and better vision may be obtained by further operation at any time should the other eye fail him.

IV. Mrs. M., aged sixty-eight years, is merely an example of "common or garden" cataract extraction done in March of this year. I am showing her only as a contrast and because her condition demonstrates that it is possible to remove a cataract by means of an incision entirely in the corneal limbus with no resulting astigmatism. With a simple convex lens of eleven dioptres the eye sees $^{6}/_{6}$ partly. I know that astigmatism was not corrected by the operation, as I estimated her refraction twenty years ago.

# Reviews.

## CANCER OF THE LARYNX.

THE subject of intrinsic cancer of the larynx and the operation of laryngo-fissure was exhaustively considered by Irwin Moore in a series of articles published in the *Journal of Laryngology, Rhinology and Otology* in 1918. He has now re-published the subject with additional matter in book form and has presented a volume which may be regarded as a model monograph.[1] After dealing fully with the statistics, the classification and the diagnosis of laryngeal cancer, he devotes the rest of the volume to a consideration of the operative technique of laryngo-fissure.

Endo-laryngeal extirpation, he holds, can never be efficient, because it is impossible in many cases to ascertain by endoscopic means the full extent of the growth and therefore there is always a doubt after operation whether the entire malignant deposit has been completely removed or not. The operation of laryngo-fissure was first suggested by Desault (Paris) in 1812, but the credit of its initiation must be accorded to Brauer (Louvain), 1833, and Ehrmann (Strassburg), 1844. The author traces the history of the operation. Many successful cases were recorded until the operation fell into disfavour about 1878 and was abandoned in favour of laryngectomy until its revival in 1890 by Butlin and Semon. A comparison of the statistics of recent years shows that the results have been continually improving partly as a result of earlier diagnosis, improvement in operative procedure and better armamentarium. The instruments designed by the author for this operation have proved satisfactory.

The bulk of Moore's monograph is based on the practical experience acquired in a series of over fifty laryngo-fissures performed during a period of twelve years. The indications for operation are discussed and the preparation of the patient. The author thinks that, although the operation can be successfully carried out under local anæsthesia alone, nevertheless it is a severe ordeal, especially to a sensitive patient, and a considerable strain on the operator. He discusses in detail every step in the procedure and all the technical considerations involved, as well as the after-treatment and results as regards recurrence and voice.

A valuable feature is the wealth of references, there being no less than 283 in the text. In addition, there is an extensive bibliography occupying five pages at the end of the book and a comprehensive index.

The illustrations, nearly fifty in number, include both photographs and drawings, are entirely original and picture clearly what is desired to be portrayed. The publishers have done their part excellently in the production of this volume.

[1] "Intrinsic Cancer of the Larynx and the Operation of Laryngo-Fissure," by Irwin Moore, M.B., C.M. (Edin.); 1921. London: University of London Press; Sydney: Angus & Robertson, Limited; Royal 8vo., pp. xii. + 147, with 46 original illustrations. Price: 24s. net.

## THE SURGICAL ASPECTS OF PÆDIATRICS.

"THE SURGICAL DISEASES OF CHILDREN," by Dr. F. C. Pybus,[1] is a work intended to give senior students and general practitioners a fairly complete account of the various surgical diseases peculiar to or chiefly found during infancy and childhood. The book is founded on experience gained in hospital and general practice; it is not a mere compilation. The numerous illustrations are almost entirely the reproduction of photographs of patients who have been under the author's care and certainly enhance the value of the work. There are also diagrams illustrating the different varieties of intussusception, hernia and methods of treating certain fractures.

The chapters on acute osteitis and that devoted to the various cysts met with in infancy and childhood are particularly good. The numerous illustrations make these sections most interesting and instructive.

In the section devoted to anæsthetics the author lays stress on the dangers of chloroform as a general anæsthetic. He seems to have encountered severe acidosis on unusually frequent occasions.

The advice given in the section on empyema that the incision for drainage should be in the seventh interspace in the mid-axillary line is not sound. Moreover, a mortality rate of 24% seems extremely high.

Dr. Pybus claims that the treatment of pyloric stenosis is still a matter of controversy. Few authorities will agree that this is so.

A tumour can be palpated in nearly every child with intussusception, if the examination is thorough; the author expresses the view that a tumour can be recognized in 50% of these patients. The mortality rate of 25% mentioned by the author would be considered too high in this country. Perhaps this high death rate is partly explained by the statement: "Injection into the colon as a means of reduction has been abandoned as a surgical procedure."

The statement that at least 30% of hypertrophied tonsils removed from children with enlarged cervical glands are tuberculous is rather surprising. The method of examining for adenoids in young children by passing the finger behind the palate is quite unnecessary and the removal of adenoid vegetations in infants without an anæsthetic is rather a barbarous procedure. Moreover, if ethyl chloride be the anæsthetic used, the open is preferable to the closed method.

In the description of the treatment of pneumococcal peritonitis no mention is made of the use of serum.

The book is well printed and arranged, is of a convenient size and, despite criticism, can be highly recommended to senior students and practitioners interested in the surgical side of children's diseases.

[1] "The Surgical Diseases of Children: A Handbook for Students and Practitioners," by Frederick C. Pybus; M.S., F.R.C.S.; 1922. London: H. K. Lewis & Company, Limited; Demy 8vo., pp. 426, with 288 illustrations. Price: 18s. net.

The Medical Journal of Australia

SATURDAY, NOVEMBER 25, 1922.

## Dangerous Drugs Regulations in Victoria.

ON January 1, 1923, the new regulations governing the manufacture, sale, possession and distribution of certain poisonous drugs, drawn up under the provisions of the *Poisons Act, 1920*, Victoria, will come into force. It is necessary for all medical practitioners in Victoria to give careful attention to these regulations and it will be well for those in other States to study them in view of the principles underlying these measures. It must be remembered in the first place that it is a function of the legislature to exercise as much control as is possible over the manufacture, sale and distribution of drugs like opium and cocaine in order to limit their abuse. On the other hand; it is necessary to impose reasonable trust in medical practitioners and others, so that the benefit of the legitimate use of these drugs may not be restricted. Many attempts have been made in different parts of the world to prevent drug fiends from obtaining a supply of their pet potions. Unfortunately, these people are cunning and resourceful and they usually discover a source of supply. The frailty of human nature presents an open door for the passage of the successful purchaser. Whether the Victorian plan is likely to be more effective than the previous attempts elsewhere remains to be seen. But even if a small measure of success is attained, medical practitioners, as enlightened members of the community, must be prepared to lend willing assistance.

Copies of the regulations have been distributed broadcast; they can be purchased from the Government Printer of Victoria for sixpence each, so that everyone concerned should be in possession of the information contained in them. It will be noted that poisons for the purpose of the Act are divided into three classes, namely, dangerous drugs, specified drugs and potent drugs. In the first class are included morphine, cocaine, ecgonine, diamorphine and all other opium preparations, provided that the preparation contains not less than 2‰ of cocaine, ecgonine or diamorphine. The regulations determine the conditions under which these drugs may be manufactured and the restrictions that may be imposed on the granting of licences to manufacture. The only persons authorized to possess, sell or distribute dangerous drugs are registered medical practitioners, registered dentists, persons "recorded" by the Dental Board of Victoria, registered pharmacists, registered veterinary surgeons, licensed dealers in poisons, persons holding a special permit and licensed manufacturers. Records have to be kept in proper registers or other approved books of all purchases and sales of dangerous drugs. The names and addresses of all purchasers must be entered in these registers. Dentists and veterinary surgeons are required to indicate on prescriptions that the drugs are required for local dental treatment or for animal treatment as the case may be. A medical practitioner prescribing a dangerous drug must indicate on the prescription the number of times the prescription may be dispensed. The regulations limit this number to four. The prescription has to be stamped or marked on each occasion on which it is dispensed and when it has been dispensed for the last time, as indicated by the maximum number marked on the script, the pharmacist must stamp or write the word "cancelled" across the prescription. When a prescription is dictated either over the telephone or over the counter, a written and signed prescription must be delivered to the pharmacist without delay. The prescriptions must bear the full signature in writing (a rubber stamp may not be used for this purpose), the date and the name of the person for whom the medicine is intended. In this connexion we would urge medical practitioners to write their own names, the names of their patients and the ingredients and doses of the prescriptions legibly. The fashion or affectation of illegibility is annoying, time-robbing for those who have to guess and by no means devoid of danger. A few simple instructions are issued to medical practitioners who dispense their own prescriptions and to all practitioners supplying or using dangerous drugs in the course of their practices. The

essence of these instructions is that proper records have to be kept of all stocks of the drugs named and of all use of the same. Corrections in the registers or approved books of record are not permitted. If necessary, a marginal entry may be made, calling attention to an error.

The second class of poisons—the specified drugs—includes chloral hydrate, ergot, paraldehyde, diethylbarbituric acid and sulphonal. The pharmacist may not dispense prescriptions containing these drugs more than twice, unless the practitioner indicates on the prescription the number of times it may be dispensed. After the prescription has been dispensed the maximum number of times, the word "cancelled" has to be stamped or written across it. The full signature of the practitioner is required when a specified drug is being prescribed. The pharmacist is not allowed to supply these drugs without a prescription from a medical practitioner or a veterinary surgeon. The drugs, however, may be sold to nurses in immediate charge of a public hospital or to a nurse employed by the Victorian Bush Nursing Association on a written order of a medical officer of this association.

Potent drugs include acetanilide, extracts or other preparations of the supra-renal glands, extracts of the pituitary gland, preparations of the thyreoid gland, sera or vaccines for human use and oil of tansy. These drugs may be sold by a registered pharmacist or licensed dealer in poisons, provided that the label carries the words: "This preparation is a 'potent drug' and care must be exercised in using it."

The regulations dealing with dangerous drugs should be of value in checking an evil of far-reaching effect. A small burden is thrown on the medical practitioners, but this is unimportant in view of the fact that it represents his contribution to an endeavour to mitigate this evil. Moreover, he gains considerably by the prohibition of repeated use of his prescription. The regulations concerning the specified drugs, though far less stringent, may prove useful. It is, however, difficult to recognize any value attaching to the regulations affecting the sale of the so-called potent drugs. It would have been more reasonable had they been included in the second class.

## THE PANCREAS IN DIABETES.

A SHORT time ago the daily press in several of the States evinced a singular lack of perception by publishing a garbled cable concerning the discovery of a curative serum for diabetes. This and similar announcements in newspapers read by the whole community are to be deplored, because false hopes are raised and an erroneous impression is created. The medical profession recognizes that it is unsafe to attach any importance to newspaper paragraphs concerning sensational discoveries in medicine.

Early in 1922, Dr. F. G. Banting and Dr. C. H. Best published in *The Journal of Laboratory and Clinical Medicine* the results of experiments conducted in the Department of Physiology of the University of Toronto on the isolation of a constituent of the pancreas which is essential for the metabolism of sugar. It was found that the active principle of the internal secretion of the pancreas is neutralized or destroyed by the proteolytic substances of the gland when extracts of the whole gland are made in the usual manner. These investigators resorted to the ingenious device of occluding the pancreatic ducts by ligatures in order to bring about a degeneration of the acinar cells without implicating the cells of the islands of Langerhans. After a time the organ represented a remnant containing little else than insular cells. Extracts of the remnant yielded a small quantity of a very active substance endowed with the power of furthering the metabolism of sugar. They then sought another method of preparing larger quantities of this substance without having to perform many tedious preliminary experiments. It has long been known that the pancreas of the human fœtus does not elaborate a proteolytic enzyme until the fourth month of intra-uterine life. Eleven years ago A. J. Carlson pointed out that complete pancreatectomy in pregnant bitches was not followed by severe glycosuria until after the birth of the puppies. This observation has been interpreted as an indication of the presence of a hormone in the fœtal pancreas which is capable of passing to the mother and preventing the occurrence of hyperglycæmia and glycosuria. Drs. Banting and Best therefore turned to the pan-

creas of fœtal calves for an extract which would contain the active principle of the internal secretion without a disturbing quantity of the digestive enzymes. The tissue was macerated in Ringer's solution and the liquid filtered. This filtrate was found to have the power of reducing the blood sugar content of dogs that had been rendered glycosuric by total pancreatectomy. They have produced evidence of the power of this extract to prolong the life of depancreatized dogs. The extract lost its activity after heating to about 65° C.. Extracts made from the normal pancreas of an adult animal in solutions of 0.2% hydrochloric acid in 95% alcohol also led to a rapid lowering of the blood sugar content of a depancreatized dog, especially if administered by intravenous injection. The effect in all instances was temporary. As a rule, the lowest point was reached about one hour after the exhibition of the extract and the previous level of the blood sugar was regained within three to four hours.

In endeavouring to evaluate the significance of these observations and their possible application to the treatment of diabetes, it is essential to define the disease in terms of pathology. F. M. Allen has performed an undoubted service in drawing a comparison between *diabetes mellitus* in human beings and experimental diabetes in dogs who have been subjected to partial or complete pancreatectomy. Apart from the histological evidence in the former condition, which has been discussed at considerable length in this journal in June of this year, there is the clinical observation that both human diabetics and partially depancreatized dogs can be kept in relatively good health by a system of starvation up to the point of the establishment of a metabolic tolerance. In the case of the dog the essence of the condition is the mechanical reduction of pancreatic tissue. Allen claims with apparent justification that the manifestations of experimental diabetes depends on the destruction of a sufficiently large amount of the beta cells of the islands of Langerhans. In human diabetes it would appear that the disease depends on a primary inflammatory condition of the pancreas and a secondary series of changes in this organ. Allen has endeavoured to produce evidence that the hyperglycæmia and glycosuria appear when these secondary changes involve a considerable amount of insular tissue. It may therefore be admitted that a similarity between the two conditions probably exists, but we doubt whether it can be shown that there is identity. The disease cannot be cured by starvation, even if it is possible to keep the glycosuria in check and to prevent the onset of acetonuria, coma and progressive emaciation. The diabetic may live as long as a normal individual under the restricted dietary, but he lives and dies a diabetic.

The startling report that Drs. Banting and Best have discovered a cure for diabetes is obviously incorrect. The experiments briefly outlined above with extracts of the insular cells of the pancreas or "Insulin" would show that the exhibition of this active principle might supply the diabetic with the deficient hormone in sufficient quantity to enable him to live in comfort and relative safety on an ordinary diet for an indefinite time. It is somewhat significant that the effect of the extracts on the dogs was extremely evanescent and that only when the extract was injected intravenously the blood sugar content was reduced to the normal level. It is extremely unlikely that all the manifestations of human *diabetes mellitus* could be permanently kept in abeyance by any method of exhibition of "Insulin." Further information is needed before definite criticisms are justified, but in the meantime it is safe to assert that the extracts of the insular cells cannot cure a disease dependent on a secondary destruction of pancreatic cells.

## THE CAPILLARY CIRCULATION.

IT is a matter of common knowledge that in some persons, particularly those suffering from aortic disease, an alternate flushing and paling of the skin can occasionally be noticed. The flushing is synchronous with systole of the heart and the paling with diastole. Lebert was one of the first to draw attention to this phenomenon. It has been held that the changes noted in the skin were due to pulsation of the capillaries. Quincke in 1868 was the first who described the "capillary pulse." Renewed interest in the capillary circulation was awakened when Lombard in 1912 described his method of studying the capillary circulation in the living tissues of the human finger. This method was described in the issue of this journal of March 25, 1922, together with observations on the capillary circulation by Freedlander and Lenhart. Attention has been drawn in recent years to the part played by

the capillaries in the production of shock, the alteration of the flow in the capillaries in some pathological conditions has been recorded and some observers have endeavoured to correlate the capillary blood pressure with changes produced by disease in the arterial blood pressure. The capillary circulation, however, is mainly concerned with the functional needs of the tissues and a correct understanding of its activities is essential in investigating the part that it plays in pathological conditions. The whole mechanism of the cardio-vascular system exists in order to maintain the flow of blood in capillaries and this in normal, healthy tissue exhibits variations between very wide limits.

In regard to the capillary pulse, some interesting observations have recently been made by Dr. Ernst P. Boas.[1] Dr. Boas investigated the capillaries of eleven patients who gave evidence of clinical "capillary pulsation." Lombard's method of examination was used, the finger under examination resting on the finger rest of Danzer and Hooker's micro-capillary tonometer. Dr. Boas points out that with each beat of the heart the capillary under examination is thrown out of focus and reappears again immediately with its original clearness. This movement can be mistaken for a pulsation of the minute vessel wall itself. He states that close examination failed to reveal any pulsation of the vessel wall. The flow was even and rapid and each capillary was of a uniform and constant calibre. Dr. Boas holds that the capillary pulsation described by other observers was due to the movement of the finger as described by him. In seeking an explanation for the clinical flushing and paling of the skin known as the "capillary pulse" he draws attention to the suggestion that the cause may lie in pulsation of the arterioles of the sub-papillary plexus. Quincke noted a centripetal venous pulsation in some instances and thought that the phenomenon might be due to the propagation of the arterial pulse wave through the capillaries to the veins. At the same time he found that the "capillary pulse" was not frequently associated with the venous pulse. Jürgensen reviewed the work of other observers, who described anastomoses between the arterioles and venules in the sub-papillary plexus and suggested that the venous pulse might be caused by the transmission of the arterial pulse wave along these anastomoses. Dr. Boas accepts this explanation as to the origin of the so-called capillary pulse and suggests that the phenomenon should be described as systolic flushing.

His suggestion is a good one, for, whether his view as to its causation be accepted or not, the name systolic flushing does not pre-suppose its nature, as does the term capillary pulse.

In addition to his studies on the phenomenon of systolic flushing Dr. Boas has, in conjunction with Dr. Samuel Frant, published some observations made on the capillary blood pressure in arterial hypertension.[2] The findings of these two observers were made on twenty-three patients, selected at random from the wards of a general hospital, whose arterial blood pressure exceeded one hundred and eighty millimetres of mercury. They used the Danzer and Hooker tonometer, with the hand under examination at heart level, and worked at room temperature. They noted the point at which the blood flow returned to capillaries on the release of pressure. They also noted pressures in a number of apparently normal persons. Danzer and Hooker stated that the normal capillary pressure was that of eighteen to twenty-two millimetres of mercury. Drs. Boas and Frant found that in healthy individuals the pressure rarely exceeded thirty millimetres of mercury. They found that persons with arterial hypertension had capillary pressures which were normal in some cases, but that in the majority the readings were between thirty and sixty millimetres of mercury. The highest reading was seventy millimetres. The groups of patients with low and those with high capillary pressure could not be differentiated by history of the disease, by physical examination or by study of the kidney function. The readings of capillary pressure, moreover, showed wide variations in different fingers of the same individual when observed consecutively and in the same capillaries when observed at different times. In one instance a difference was discovered in the same capillaries after a four day interval. Drs. Boas and Frant conclude that the pressure may vary from physiological as well as from anatomical causes. They point out by way of analogy that, if the arterial blood pressure of patients with hypertension be taken by a series of successive readings, the last reading is often much lower than the first readings. In the production of capillary blood pressure many factors are concerned. Not only is the force of the cardiac muscle to be taken into account, but consideration must also be paid to the resistance offered to onflow (such as venous stasis), the friction of the walls of the vessels, the extra-vascular pressure and the viscosity of the blood. Drs. Boas and Frant state that care was taken to eliminate the presence of venous stasis. They make no mention of the viscosity of the blood. It is conceivable that in an interval of four days some change in viscosity might occur that would make a slight difference in the reading. The difference might be so small as to be almost negligible, as stated by Stewart, but it must be considered. In consecutive readings on different fingers the question of viscosity, obviously need not be raised. Drs. Boas and Frant suggested that the variations in these cases may be due to differences in contraction of the arterioles. In discussing the differentiation of the groups of high and low capillary pressure in the patients with arterial hypertension, no mention is made of the microscopical characteristics of the blood. It is true that physical examination revealed nothing which would account for the differences observed. An abnormality in the red cell count would cause a difference in viscosity. Thus in polycythæmia the viscosity of the blood is 9.4 times greater than that of water and in chlorosis it is only 2.14 times greater. Here again the difference resulting might be exceedingly small, but it should nevertheless be considered.

Drs. Boas and Frant conclude that the estimation of capillary blood pressure is of no clinical

[1] *Archives of Internal Medicine*, June 15, 1922.
[2] *Archives of Internal Medicine*, July 15, 1922.

assistance in the diagnosis of essential hypertension. They further suggest that possibly patients with a high capillary pressure may be suffering from a general capillary disease with glomerulo-nephritis as one of its manifestations. This is a point which requires confirmation. The findings of these two observers differ somewhat from those of Hill and McQueen, who denied that the capillary blood pressure was raised as a result of a high arterial tension. Even with these differences obtained by different workers it may well be that the estimation of capillary pressure will find a place in the method of controlling treatment when a deliberate lowering of the blood pressure is undertaken.

## REACTIONS WITH TUBERCULOUS EXUDATES.

IT is often very difficult to determine whether the exudate found in one of the serous cavities of the body is tuberculous in nature or not. The history of the patient and the clinical signs present are, in the absence of other confirmatory evidence, not sufficient to justify a diagnosis of tuberculosis. The several tuberculin tests cannot be regarded as reliable in the diagnosis of clinical as opposed to bacteriological tuberculosis. The isolation of tubercle bacilli is rarely obtainable in dealing with serous exudates. The most certain method is that of injecting a guinea-pig with the suspected fluid and waiting for the development of tuberculosis in the animal. This, however, takes time and on this account efforts have been made to discover other more suitable clinical aids to making a diagnosis.

Dr. Isamu Ogawa has recently endeavoured to apply the precipitin and complement fixation tests to pleuritic exudates with this object in view.[1] He used pleural fluids from patients with tuberculous and pneumococcal pleurisy and from guinea-pigs and rabbits in which he had induced tuberculous pleurisy. The latter he found useful in that he was able to determine the time necessary for the development of antibodies in the exudates.

In the precipitin tests with human tuberculous exudates five of a series of twelve yielded a slight precipitin reaction. With the animal exudates precipitin reactions occurred with five out of thirty-six; with the complement fixation tests Dr. Ogawa obtained more satisfactory results. Of the twelve human exudates all but one yielded a complement fixation reaction. A reaction was obtained with fluid from a syphilitic patient suffering from cardiac failure. Dr. Ogawa ascribes this to the "syphilitic antibody" acting on the lipoids of the tuberculous antigen and says that it is essential to remove the lipoids before making the test. In regard to the animal exudates it was found that the most satisfactory results were obtained if the test was made fifteen days or more after inoculation. After this period of time a reaction was obtained in 89%.

The results of Dr. Ogawa's experiments with the precipitin reaction are disappointing. The series is a small one, however, and it is quite possible that further investigation in this direction may yield more satisfactory results. The complement fixation test is apparently more satisfactory and in Dr. Ogawa's hands it has yielded good results. He points out that certain refinements of technique are necessary in order to produce the best results. Thus, heating the fluid to 55° C. to remove thermolabile lysins and antilysins is one point on which he lays stress. The value of the complement fixation test in tuberculosis will be more fully considered in a subsequent issue.

[1] *The Journal of Immunology*, September, 1922.

## AUSTRALIAN AND NEW ZEALAND MEDICAL ASSOCIATION IN ENGLAND.

IN our issue of September 23, 1922, our London correspondent gave a short account of a newly-formed society, the Australian and New Zealand Medical Association in England. This society was founded on June 22, 1922, and its aims are described in the following terms: to assist medical visitors from Australia and New Zealand with information and, if it be desired, with advice. The membership of the Association is open to graduates and undergraduates in medicine who were born in Australasia and who are resident in or visiting England. Those who are already enrolled, have gathered much information which may be of use to Australasians newly arrived in England. The information suggested is in connexion with the facilities afforded by the several institutions to those preparing for the higher examinations and with the arrangements for post-graduate study. Members can be assisted in their endeavour to obtain house appointments at hospitals in London and the provinces and clinical assistantships. The Honorary Secretaries are prepared to give advice in regard to rooms and lodgings and to further Australasian comradeship by communicating the addresses of members. Reference was made by our London correspondent to the social and sporting side of the undertaking.

The importance of this society to Australian and New Zealand medical practitioners resident in England is at once apparent. There is a natural tendency for anyone situated permanently or temporarily far from home to seek others who have come from the same parts, so as to form an actual link with the homeland. Cosmopolitanism is uncommon. At every international gathering, national groups are formed and migration from one to another is spasmodic and more or less experimental. The new society represents an unconscious reaction to this natural stimulation to segregation.

Visitors from Australia to the old country will be accorded a hearty welcome by the members of this society and will not only derive comfort from the meeting with friends in a strange land, but will be able to obtain sound advice at a moment when counsel and assistance are of the greatest value. The first thing that an Australian graduate or undergraduate in medicine visiting England should do on his arrival, is to send his name, address and five shillings to one of the Honorary Secretaries, Mr. E. T. C. Milligan, F.R.C.S., or Mr. Bedford Russell, F.R.C.S., 86, Harley Street, London, W.1, together with an application to be admitted as a member.

# Abstracts from Current Medical Literature.

## THERAPEUTICS.

### The Absorption of Digitalis.

CARY EGGLESTON AND JOHN WYCKOFF (*Archives of Internal Medicine*, August, 1922) have published their observations on the absorption of digitalis in man. Tincture of digitalis shows definite electro-cardiographic evidences of action on the heart in from two to four hours after oral administration. A few unsatisfactory tinctures which are poorly absorbed from the alimentary canal, may require more than five hours for the development of demonstrable cardiac action. The authors describe a method of preparing and standardizing a purified tincture which is to found to be absorbed from the digestive tract of man more rapidly and more uniformly than different specimens of the official tincture which are of average biological activity. Individuals show considerable variation in capacity to absorb digitalis. Crystalline digitoxin is probably more uniformly absorbed than the purified tincture, but the former is not of uniform activity. A biological assay of each specimen of crystalline digitoxin is necessary before it can be safely administered in effective doses. The authors adduce interesting evidence to support the contention of Hatcher and Weisz that the nausea and vomiting induced by digitalis arise reflexly from the drug's action on the heart. It had been believed hitherto that the emesis was due to the direct action of the drug on the vomiting centre, since digitalis produced nausea and vomiting in animals from which the gastro-intestinal tract has been extirpated. It is now thought that the vomiting is the result of protective reflexes arising in the heart when it is poisoned by the drug. These cardiac reflexes apparently pass through afferent sympathetic fibres and to a lesser extent through afferent fibres contained in the vagi. The emetic action of digitalis in man results only after the absorption of a sufficient quantity of the drug and definite evidence of its action on the heart are to be found before the appearance of either nausea or vomiting. The development of nausea or emesis in the course of the therapeutic administration of digitalis must henceforth be regarded as among the surest and most valuable signs of intoxication of the heart and demands the immediate cessation of further administration, temporarily at least.

### Luminal.

W. JOHNSON (*The Lancet*, August 5, 1922) deplores the infrequent use to which "Luminal" is put by physicians. "Luminal" or phenyl-ethyl-barbituric acid is closely allied pharmacologically to "Barbitone," one of the ethyl groups of "Barbitone" being replaced by a phenyl group. It is insoluble in water, but is easily suspended in mucilage and is then readily taken without unpleasant effects. The dosage recommended is from 0.09 to 0.3 gramme. The author insists that it is frequently invaluable in the treatment of epilepsy, when bromides fail. It has apparently more influence on the minor than on the major attacks. The author frequently adds 0.03 gramme to each dose of the bromide mixture and finds that the number of attacks is almost immediately decreased. If improvement is tardy, the dose is increased by 0.015 gramme weekly until a maximum dose of 0.12 gramme is administered three timese daily. Epileptiform seizures associated with hemiplegia, cerebral diplegia and other organic cerebral lesions may be controlled by similar doses of the drug. Certain forms of mid-brain tremor also show improvement under therapy with "Luminal," but its value in the treatment of *paralysis agitans*, the rhythmical tremor following lethargic encephalitis and the severer forms of chorea is still under investigation. Usually "Luminal" improves the mental condition of the patients under treatment, but in doses exceeding 0.12 gramme thrice daily mental excitement progressing to mania has sometimes been observed.

### Sodium Citrate in Vascular Affections.

MORICHAU BEAUCHANT (*Le Journal de Thérapeutique Français*, May, 1922) advises the employment of citrate of soda in certain affections of the blood vascular system. Patients who suffer from intractable pain due to spasm of the arteries of the extremities or even to *endarteritis obliterans*, as occurs in *diabetes mellitus*, arterio-sclerosis and senility, may be relieved by the administration of this drug. Mayesima showed that in gangrene due to arteritis the blood was excessively viscous. This observation led another observer, Meyer, to administer intravenous injections of sodium citrate, but as the dosage used was small, his results were inconclusive. Ozo and Steel used much larger doses and obtained pleasing results. The author gives the drug in daily doses of three or four grammes by mouth. In serious cases one gramme may be given every two hours. The administration must be prolonged. One patient was able to consume a daily dose of four grammes over a period of eight months without manifesting dangerous symptoms. Citrate of soda renders the blood less coagulable. Whether, however, it renders it less viscous is still obscure. It is supposed that the citrate makes the blood more "fluid" in composition and promotes a freer circulation and that it relaxes the spasm of the peripheral vessels by a local action on the vessel coat. The author suggests its use in the spasms of intermittent claudication, *angina pectoris* (coronary spasm) and temporary hemiplegia.

### Arseno-Benzol in Epilepsy.

MAURICE PAGE (*La Presse Médicale*, September 9, 1922) has treated three patients suffering from essential epilepsy with intravenous injections of arseno-benzol. Prior to treatment, the first patient had to endure on an average five epileptic fits a day and five or six attacks of *petit mal*; the second had three fits a day, but many minor attacks, while the third suffered from major attacks only. All three have recovered apparently perfect health and lead the lives of normal citizens. The first has been free of epileptic "accidents" for eight years, the second for two years and the third for eleven months. Treatment was continued for from one year and eight months to two years and a half. Each patient received eight to twelve series of injections of nov-arseno-benzol, the amount injected into the veins in each series being five grammes. Before treatment the blood and cerebro-spinal fluid of each patient failed to react to the Wassermann test, except in the case of the first patient, in whom the reaction was doubtful, possibly as the result of an error in technique. In the interval between each series of injections the author administered injections of nucleinate of soda or of tuberculin in the belief that these so stimulated the lesions or the organisms of the disease as to make them more susceptible to the action of the arsenical salts.

### Iron and Ammonium Citrate.

IT has been noted that iron and ammonium citrate varies greatly in solubility and in the amount of precipitate formed in solution. J. DEAS (*The Canadian Medical Association Journal*, September, 1922) examined nine samples which varied in the size and colour of the scales to a considerable degree and found that in most of these a definite precipitate occurred in three weeks. He found that fine red scales of a light reddish colour gave least precipitate. Magnesium sulphate with the solution caused no increase or decrease of the amount of precipitate, so that the use of magnesium sulphate with iron and ammonium citrate is not contra-indicated for this reason. The author states that sodium sulphate has the same laxative effect as magnesium and that it causes no more precipitate but definitely improves the flavour of the mixture.

### Acetyl Salicylic Acid.

F. W. W. HIPWELL (*The Canadian Medical Association Journal*, September, 1922) publishes the results of some investigations on the best method of administering acetyl salicylic acid. This drug is notoriously insoluble in water and alcoholic solutions are not always suitable for administration. It was found that sodium citrate, with acetyl salicylic acid in a proportion of four to one, was unsatisfactory because the former decomposed the latter. With other alkalies in solution acetyl salicylic acid decomposes still more readily, but it does not do so when given in powder form with sodium bicarbonate. The latter drug may prevent the irritating action of acetyl salicylic acid on the stomach. Acetyl salicylic acid is superior to sodium salicylate in relieving pain and is excreted as such in the urine.

## UROLOGY.

### Pneumo-Pyelography.

S. A. THOMPSON (*Journal of Urology*, April, 1922) publishes a preliminary report on the technique and the advantages of making pyelograms by means of the injection of oxygen. Pneumo-pyelography was advocated in 1910 by L. G. Cole, of New York. The method has not been adopted and no article has since been published. The gas will percolate more easily through a tight ureteric obstruction than will any fluid. Calculi associated with a hydro- or pyo-nephrosis are usually obscured by the very dense opaque fluid, but are not so hidden by the oxygen. Hydro-nephroses and pyo-nephroses are better filled by the gas than by the fluid. With a fluid medium the pelvis of a malplaced kidney lying across the vertebral column cannot be clearly differentiated from the vertebræ. The oxygen is passed from a cylinder at a slow and constant rate of flow and the pressure is observed on a manometer connected by a T-piece to the rubber tubing. The latter is connected to a catheter lying in the ureter. The flow of oxygen is gradually increased until the patient complains of a fullness in the kidney region. The pressure is then allowed to increase to a point twenty millimetres above that at which the patient first complained of renal discomfort. A radiogram is then taken. With careful technique no harm can be done.

### Perineal Prostatectomy.

ARTHUR B. CECIL (*Journal of Urology*, December, 1921) details his results in one hundred consecutive instances of perineal prostatectomy done by Young's method. The author contends that in discussing the mortality of the suprapubic method, the mortality of the first stage (cystostomy) is never given, although fatalities frequently occur after it. With the perineal method preliminary drainage was considered necessary in ninety-three out of the one hundred patients treated. In most instances this was done by means of the retention catheter or by the retention catheter combined with intermittent catheterization. In two instances intermittent catheterization alone was the only possible catheter method. In four suprapubic drainage was necessary. Catheterization is the method of choice in preparation because (1) it avoids operative procedures when the patient is least able to stand them, (2) it avoids the abdominal scar, which is sometimes painfully pulled on by the contracting bladder, and (3) it avoids absorption from the susceptible retropubic space. In very bad cases intermittent catheterization alone is the method of choice. The wound always healed well and no case of perineal fistula occurred. Eighty-eight patients have been followed up and in them the functional results were good. Two patients out of the hundred died. Both were over eighty and died on the fourteenth day from pneumonia.

### Pneumo-Peritoneum in Diagnosis.

L. R. SANTE (*Journal of Urology*, June, 1922) reports on the usefulness of air injection into the peritoneal cavity with subsequent radiograms in the diagnosis of retro-peritoneal masses. With pneumo-peritoneum established, the ordinary antero-posterior skiagram discloses with great clearness the outlines of the liver, spleen and kidneys. When it is necessary to differentiate between a retro- and an intra-peritoneal mass, the "retro-peritoneal position" is used in making the skiagram. The patient is placed prone with sandbags supporting the front of the thighs and chest. The anterior abdominal wall now falls downwards together with the stomach, intestines and all organs with a mesenteric attachment. This leaves a prevertebral clear space filled with air, above which is a continuous shadow of a typical shape due to the retro-peritoneal structures and below which the normal shadow of the stomach, intestines, etc., is seen. The shadow due to the pathological mass may appear to be continuous with either the intra- or retro-pertioneal organs. The ordinary antero-posterior picture is next studied to check the results and to determine, in the case of a retro-peritoneal mass, which organ is implicated. The injection of a small amount of air into the peritoneal cavity is considered to be without danger.

### Pyelitis of Pregnancy.

W. G. SEXTON (*Jonrnal of Urology*, June, 1922) summarizes his considered opinion on pyelitis of pregnancy. Pyelitis occurs not infrequently at any time during pregnancy or even in the puerperium and at times may be mistaken for appendicitis. Pressure of the uterus is probably not an important factor in the causation. The most likely cause seems to be a narrowing of the lumen of the ureter and ureteric stricture may frequently be discovered. In the majority of patients the condition will respond to rest in bed with elevation of the head and shoulders, ingestion of large quantities of fluid and large doses of "Urotropin." The urine should be kept strongly acid. The alkaline treatment is not so successful in these instances as it is with the pyelitis of children. When the condition is more serious, catheterization of the ureters with pelvic lavage may be very valuable. Surgical intervention is rarely indicated.

### Sodium Iodide in Gonococcal Epididymitis.

A. RAVITCH (*New York Medical Journal*, May 3, 1922) reviews his recent experiences with intravenous injections of sodium iodide in ninety patients suffering from acute gonorrhœal epididymitis. The drug is obtainable in sterilized ampoules, each containing "two grammes of sodium iodide in isotonic base." One ampoule is the average dose. The injection is given intravenously every other day for the first three or four doses and then every third or fourth day until the desired effect is obtained. The ampoule should be warmed before opening it. The average number of injections necessary is four or five, but up to ten may be required. Usually the pain is relieved after the first or second dose. Under the influence of this treatment the patient is usually able to continue his occupation. Elevation of the scrotum and the application of a soothing ointment should not be omitted. In two cases out of the ninety there developed a swelling of the salivary glands, accompanied by pain on movement of the jaws. This occurred shortly after the injection and lasted for several hours. Some patients complained of the intensely bitter taste of the iodide, lasting as long as twenty-four hours. No other complications were observed.

### Hæmorrhage Control in Prostatectomy.

C. E. BARNETT (*Urological and Cutaneous Review*, February, 1922) desires to have "a trump card to play" where hæmorrhage occurs after suprapubic prostatectomy and has designed a means by which a hæmostatic bag may be put into position after the operation, while the fistula is still open. A steel sound of size 20 (French), with an eye in its tip, is employed in order to pass a strong silk ligature from the meatus through the urethra and out of the suprapubic wound immediately after the enucleation. The ends are fixed to the skin of the thigh and abdomen with adhesive plaster. When hæmorrhage occurs, the tip of the urethral tube of a Plicher hæmostatic bag is attached to the suprapubic end of the thread. By pulling on the latter, after lubricating the bladder and urethra, the bag itself is pulled tightly into the bladder neck. The bag is then inflated.

### Contracture of the Bladder Neck.

EDWIN BEER (*New York Medical Journal*, May 3, 1922) considers the diagnosis and treatment of contracted bladder neck. Almost all his patients were young males. The history frequently dated back to early life. The patients complain that they are not able to empty their bladders as quickly and easily as their fellows. The inflammatory infiltration of the sphincter is not sufficient to cause any difficulty in passing an instrument and nothing is discovered *per rectum*, but on opening the bladder the contraction of the orifice is unmistakable. With the cysto-urethroscope there is seen a hollowing out of the floor of the prostatic urethra, followed by a more or less thick, raised bar, which forms the inferior circumference of the fibrotic neck. In preference to the Young punch or high-frequency incision of the floor of the orifice the writer advocates suprapubic broad excision of the floor of the bladder neck. The excision is done with scissors and passes well into the prostatic tissue. The finger is then passed into the posterior urethra and any fibrous bands felt are divided.

# British Medical Association News.

## SCIENTIFIC.

A MEETING of the Queensland Branch of the British Medical Association was held at the B.M.A. Building, Adelaide Street, Brisbane, on October 6, 1922, the President, DR. G. P. DIXON, in the chair.

### Skiagrams.

DR. A. T. NISBET showed several interesting skiagrams of tuberculosis of the hip. He also showed skiagrams of a double fracture of the orbital ring and of a fracture of the lower jaw after the operation of wiring had been performed.

### Foreign Body from the Large Intestine.

DR. NISBET also showed a nail that had been removed from the large intestine of a man who had had nephrectomy performed at the Rosemount Repatriation Hospital. A small fistula had remained unhealed. After treatment this fistula had healed, but had soon broken down again. A skiagram had revealed the presence of a nail in the abdomen. Laparotomy had been performed and a nail wrapped in cotton wool had been removed from the large bowel. It was presumed that the patient had kept the fistula open with a nail and that this had slipped into the wound and could not be withdrawn.

### Dislocation of the Lens.

DR. J. LOCKHART GIBSON showed several patients who had suffered from dislocation of the lens. He also showed specimens of the lenses after removal. (See page 615.)

### Coloboma.

DR. E. O. MARKS showed a male patient, aged six years, suffering from microphthalmia with coloboma of the iris and chorioid. There had been no history of defective eyes in the family of either parent and with the exception of his eye trouble the patient was a normal and healthy child. Dr. Marks pointed out that the right eye was very small, with a small, clear cornea about five millimetres in diameter. The iris showed a definite coloboma below. With an ophthalmoscope no reflex could be obtained. Some white membrane was visible below and the eye was quite blind. The left eye was small, but larger than the right, with a cornea whose diameter was eight millimetres. There was also present a coloboma of the iris and chorioid which included the disc and the macula. Practically the lower half of the fundus was included in the coloboma and the upper part seemed normal. It was difficult to see the fundus owing to nystagmus. With the refraction corrected by a convex lens of three dioptres the patient could read print held very close to the eye. Distant vision of less than $^6/_{60}$ was obtained by turning the eyes acutely upwards.

### Psycho-Therapy.

THE PRESIDENT, in introducing Professor J. P. Lowson, welcomed him, not only as a new member, but as the first occupant of a medical chair at the University of Queensland.

PROFESSOR LOWSON read a paper entitled "Some Principles in Psycho-Therapy" (see page 603).

DR. R. A. MACLEOD considered that fatigue of the patient was a very real thing and perhaps had a deeper meaning than was generally understood at the present time. He had noticed this fatigue when dealing with re-education in mental blindness and also when dealing with feeble-minded and tabetic patients. He could not understand how emotion or pain could be unconscious, nor how repression occurred. Emotion was transient and, if another were introduced, the original one might be overcome. All psycho-analytical systems boiled down to suggestion, persuasion and re-education, especially the latter. Inhibition was not passive, but active. He considered that coordination and not inhibition was the main factor in the human body.

DR. J. E. STREETER said that he would have liked Professor Lowson to have gone more deeply into the subject. He considered that amnesia occurring in this case during sleep was very unusual. Endo-psychic censorship did not usually occur during sleep. As the patient was a potential neurotic, he thought that a complete analysis of the case should have been undertaken.

DR. H. COSTELLO SHAW said that, owing to the number of patients and the lack of time, the only methods employed at the Goodna Hospital for the Insane were healthy surroundings, amusements and medicinal treatment.

DR. T. H. R. MATHEWSON said that he had listened to Professor Lowson with very great interest and pleasure. Professor Lowson was to be congratulated on the very lucid and practical exposition he had given of a very important and difficult subject. The psychological principle which he had described had been first enunciated by Freud. Working with Breur more than thirty years ago Freud had found that individual hysterical symptoms disappeared without returning if he succeeded in awakening thoroughly the memories of the causal process with its accompanying emotion and if the patient discussed the process circumstantially, giving free play to his emotion. Emotionless memories, he had stated, were almost utterly useless. Professor Lowson had given a very reasonable explanation of the mechanism involved; it was not merely that the patient was able to "work off" the repressed emotion, but that he was able with the help of the analyst to face the situation and to make the necessary adjustment in a way that had previously been impossible.

It was clear from what Professor Lowson had said, that the existence of a distinct field of psychological investigation must be admitted. Much of the work done in the field of so-called "experimental psychology" had been concerned largely with the study of physiological processes. That mind and body were intimately associated there was no doubt. Psychical and physiological changes often accompanied one another in a perfectly definite way. Thought and emotion were essentially distinct in their nature from physiological phenomena, however closely they might be accompanied by physiological changes. It was not possible to get nearer to an understanding of mental processes by believing that they were the direct result of changes within the brain substance.

Any conceptual construction was legitimate as an expedient, if it helped in a classification of phenomena and obtained a clearer insight into their true nature. In the present state of knowledge the only scientific way in which the processes under discussion could be expressed, was in terms of psychology. The law of causation or of determinism, as it was called, necessarily held good within the mental sphere, just as it did in the physical, for without this law scientific investigation was impossible. There was no more room for chance in the mental world than there was in the physical. A sense of unreality had always clung about the older psychology. It has been regarded as an abstract science and it had seemed to throw but little light on the infinite complexities of life and behaviour. The reason for this was that the older school of psychologists had limited their investigation to the conscious mental processes and their sole method of investigation had been introspection, which had consisted in the attempt to describe and examine conscious thoughts and feelings and to generalize upon these. Thus introspection imposed limitations to psychological investigation. The result of these limitations was seen in the emphasis placed by the older psychologists on conscious mental processes, such as perceiving, attending reasoning, etc.,. If a fully reasoned decision was made to take such and such an action, the person making it was usually fully conscious of all the steps in the process by which he had arrived at the decision. But he might act in a certain way without being able to give a reason for so doing; in fact, he might admit that he had acted in an unreasonable manner, but would say that he simply had had to act in such and such a way. If a man was able to give a reason for his conduct, it might be quite wrong; he would only be rationalizing, as it is called (a bad workman, for instance, blamed his tools). To ask an individual, therefore, why he did a certain thing was not the most accurate method of discovering his real motive. Of course, in many cases the individual was quite unaware that he was rationalizing; in fact, that he was deceiving himself. It was necessary to believe that actions were undertaken rationally and man was loath to admit that he thought and acted without being aware of the motives behind his thoughts and actions.

The advances that had been made in recent years in

knowledge of mental processes consisted in the recognition of the non-rational processes which played so great and fundamental a part in human lives. As Tansley had pointed out, these advances were due mainly to two great factors—doctrine of evolution and study of psycho-pathology. Darwin, in the "Descent of Man," had endeavoured to show that there was no fundamental difference between man and the higher animals in their mental faculties. Those mental characters which civilized man shared with primitive man and with many of the higher animals, had been increasingly recognized as of fundamental importance, while those higher mental characters, the power of reasoning, the ethical sense, etc., were relatively later and superficial developments. It was not implied that these later developments were unimportant; on the contrary, they were precisely the qualities which were of the greatest importance to man—they were the qualities which separated him from the higher animals. The fact remained that they were relatively superficial and were built on a groundwork of largely unconscious, non-rational instincts, desires and emotions inherited from his non-human ancestors. To ignore or minimize the importance of this groundwork rendered a real understanding of the structure and activities of the mind and the part it played in the conduct of life impossible.

Psychology had probably received the greatest impetus as the result of the work of such eminent investigators as Janet, Freud, Jung and others. Just as the study of pathology had shed light upon physiological processes, so the study of psycho-pathology had given greater insight into the functions of the normal, healthy mind. In both cases the behaviour of the organism when it lost the normally well-balanced adaptation of one part to another and to the environment which characterized a condition of health, differed only in degree from normal behaviour. When the reaction and behaviour were so extreme as to be regarded as pathological or abnormal, an analysis of the normal functions was presented the study of which was impossible, as though they were isolated.

Dr. Mathewson said that his own work in connexion with functional nervous disorders had taught him the importance of prophylaxis. It was easier to prevent the development of a nervous disorder than it was to cure it. This is why it was so important to recognize and treat the condition before the symptoms had become fixed. Prevention of disease should be the ultimate aim of all medical research. In a recent issue of THE MEDICAL JOURNAL OF AUSTRALIA Dr. Lind, of the Victorian Lunacy Department, commenting on the formation of a Section of Preventive Medicine in connexion with the Victorian Branch of the British Medical Association, had pointed out that psychiatry should be included in its sphere of operations. In addition to the consideration of heredity and the various strains, both physical and psychological, which he had mentioned as predisposing causes of mental disorder, it was important that the personal development of the individual should be studied. The child's mind at birth was no longer regarded as being void of all characters, but it was possessed, as Dr. Mathewson had already indicated, of instinctive general capacities whose function was to bring the individual into relationship with reality. It was important to study the manner in which the individual had taken account of these instinctive capacities and had met their demands in his life; how he had adjusted himself to his environment. Attention should be paid to the relationship of the growing child to the members of the family who surrounded him during the early years of life. As Fiske had pointed out, one of the characteristics of an advanced civilization was the prolongation of the period of helplessness and dependence of the child. In the life history of every individual, as White, of America, had said, there came a time when he had to "emancipate himself from the thraldom of the home," when he had to "go forth into the world of reality and win there a place for himself." White had not meant a mere circumstantial leaving of the home, but an actual growing away from it in feeling, so that there would remain no crippling attachment to interfere with the child's freedom of expression. While this was necessary for the fullest development of the individual, it was sometimes extremely painful and many persons never accomplished it at all. According to White, these were the future neurotics. Dr. Mathewson pointed out that this attachment to the home was particularly apt to occur in the case of only children and in the case of pampered children. It was most important for the child at all ages to have companions about his own age. It was only in this way that he could find his place in society. The conflict between purely personal and social interests showed itself very early and upon the satisfaction solution of this depended the success of education. As the child grew he found that he had more and more to renounce the purely personal and replace them by social interests. Educators like Montessori, Froebel and others had taken account of this, as well as of the natural activity of the child. Instead of trying to repress this activity, they had provided suitable means of expression for it in useful work. The older method of education had tended to stunt the development of the child's mind.

Dr. Mathewson thought that he had said sufficient to indicate a few of the paths which investigations must follow if this problem was to be faced with any hope of success. Prophylaxis involved the consideration of every circumstance which tended to influence the mental development of the individual.

DR. A. GRAHAM BUTLER, D.S.O., said that Professor Lowson's paper had been to him—and he felt sure to most of those present—something of an event in connexion with their professional work and outlook. Since hearing it he certainly felt that he had a clearer idea of the aims and methods of psycho-therapy. Unlike Dr. Streeter, he was glad that Professor Lowson had presented a clear-cut and comparatively simple case for the purpose of propounding and illustrating the principles and methods on which this comparatively new branch of the science and art of medicine was based. Two things he thought had been that evening, so to speak, on trial. The first, to which he asked Professor Lowson's permission to refer with all courtesy, was Professor Lowson's own scientific outlook and professional attitude; and here he could speak without restraint, since their value to scientific medicine had been so happily and convincingly demonstrated. With regard to the second, the actual scientific and clinical position and meaning of psycho-therapy, the importance of the matter was accentuated by the fact that in their University of Queensland the one visible sign of a potential medical school—the one subject which in front of all others had been selected for the first professorship in which medical science was directely interested—was that of psycho-therapeutics. He had to confess that he had always had feelings of considerable doubt as regards both the actual and clinical value and also the comparative national importance of this branch of medicine as it presented itself to the ordinary practitioner of medicine, particularly in the form of psycho-analysis. As regards its clinical value and scope, he had felt that its undoubted possibilities for usefulness in some cases were gravely qualified by considerable potentialities for harm and that such had already unfortunately marked its application in practice. A review of a text-book on the subject in THE MEDICAL JOURNAL OF AUSTRALIA so recently as July 22, 1922, had illustrated current medical thought on the matter. The reviewer, after questioning the opinion of the author that "Psycho-analysis is a conscious and more often a subconscious or unconscious debauching of the patient. Nothing is so diabolically calculated to suggest sexual perversion," had commented that, "although the language may be described as hyperbolic invective, yet the author is only a little in advance of the growing opinion of the profession as to the disabilities, if not dangers, of the teaching and practice of the Freudian schools"; and (quoting the Croonian Lectures) agreed that "the chief cause of error is the possibility that the subject derives his associations, not from endogenous sources, but from the investigator."

With regard to the case described by Professor Lowson, he felt that he must join issue with Dr. Streeter, who thought that the girl should, after the happy issue of the mental conflict, have been subjected to an intensive psycho-analytical study. Speaking without pretence to special knowledge, he thought that Professor Lowson's treatment had been entirely satisfactory and adequate.

With regard to the second matter, the comparative value and relative importance of psycho-therapy as a branch of medical therapeutics, he had felt that in connexion both with war and peace there had been some loss of perspec-

tive and that the whole thing had been, from the point of view of efficiency, rather overdone. In connexion with cases of "shell shock," the best therapeutist had been the regimental medical officer, who, by timely rest, nourishment and a little judicious pressure, had prevented soldiers potentially affected from drifting back to the base hospitals, where they had been liable to degenerate into confirmed psycho-neurotics. There had been, of course, besides those affected by undoubted mental overstrain, many who from innate causes, such as bad heredity and upbringing, poor mental stamina, etc., had been bad material from the outset. These had been the definite patients for psycho-therapeutics; but, speaking broadly, it had seemed to him that, even after all the scientific thought and elaborate care had been bestowed on them, they had been useless for the purposes of war. It had been useless to send them back to the front, for they had relapsed and had been a source of danger from example, as well as being useless. Similarly in peace, he was afraid that much of the material on which psycho-therapy was expending so much time and energy and which had come to loom so large in the public eye, was poor stuff. Many patients, after having been freed from one distress at great expenditure of time and trouble, were liable at any fresh mental pain or shock to relapse. However, since listening to Professor Lowson's defence of his specialty, he felt much happier on the matter and was very glad to have heard such a scientific and balanced exposition of the subject.

THE PRESIDENT from the chair thanked Professor Lowson for his address and said that it had been marked by simplicity and clearness. It had been presented in a form that could be understood by the general practitioner

PROFESSOR LOWSON, in reply to Dr. MacLeod on the question of fatigue, said that he did not think that the cases cited were quite parallel, perhaps, with the complaint of fatigue which he had mentioned. The fatigue of mentally deficient children depended upon the well-known difficulty which such children had in fixing their attention for any length of time.

With regard to "unconscious emotion," he did not believe that such a thing as a strictly unconscious emotion existed; however, it was quite possible for a man to fail to judge correctly of the emotion which he felt. Thus a man who had lost his temper might fail to notice as a fact that he had done so and fail to notice the influence of this fact on his actions and might even insist that he was perfectly cool. In this sense an emotion might be said to be unconscious, but not in any other sense. On the other hand, an emotion might be repressed, as when the anger aroused, say, in business during the day, was stifled for the moment and perhaps burst out at home.

As for the expulsive power of a new affection and the possibilities of re-education, Dr. MacLeod would find these brilliantly discussed by Professor Déjérine in his work on the psycho-neuroses and their psychological therapy. They belonged to a part of the subject which did not fall easily within the limits of the paper, but he (Professor Lowson) was sorry if he had given the impression that he regarded them as of no importance. That was not in fact his position.

As to the importance of coordination he agreed, of course, with Dr. MacLeod. The object of removing an inhibition such as existed in this case was to make the full coordination of the patient's mind possible.

Replying to Dr. Mathewson, Professor Lowson said he had been very interested in what Dr. Mathewson had said and particularly in what he said and implied about the bearing of psychological medicine upon mental evolution and upon prophylaxis.

The bearing of the facts with which they were brought into contact upon the mental evolution of the race was one of the most interesting sides of the subject from a purely scientific standpoint. It was difficult to avoid the impression that some of the troubles from which some patients suffered, arose from the persistence in their case of primitive modes of thinking and emotional reaction which the more fortunate members of the race had more or less outgrown. He believed himself that this was so. Similarly an impression was produced by the lasting effects following mental strains and shocks now incident to the childhood of many people and unnoticed by their elders. These might perhaps be prevented when the principles of a sound mental hygiene were better understood.

In reply to Dr. Streeter, Professor Lowson said that it had not been possible to cover the whole ground of medical psychology in a single short paper.

As to the reason why the repression had taken place during sleep, he was not prepared with a positive answer. The fact was so and it had been useful to him because it brought out the point he was anxious to make, namely, that a process of that kind was often not voluntary but automatic. It might be suggested that the reason was that the facts repressed had been painful and not the expression of a personal tendency repugnant in itself, but nevertheless capable of seeking a satisfaction of its own. The repression, in fact, had taken place strictly in accordance with the "pleasure principle," which operated equally in the sleeping and waking states.

As to a complete analysis in this case, it had not been possible to carry this out, even if it had been desirable. Professor Lowson admitted that he should have been more comfortable in his mind if he had been able to see more of the patient; but this had not been possible. He was not sure that she had been a suitable case for a strict analysis in the Freudian sense.

In reply to Dr. Butler, Professor Lowson discussed his views on Freudian analysis. This was a process of which he had had some personal experience. He did not agree that it consisted in a systematic cultivation of sexual perversion or words to that effect. He did not regard it as a process devoid of danger, nor did he regard it as a method of treatment to be applied to all and sundry without previous inquiry and consideration; but it had to be admitted that there were a not inconsiderable number of patients for whom nothing short of a thorough analysis would do any good. There were persons whose mental and moral development had been so warped and thwarted from the beginning, that it was necessary to get back into the remotest recesses of their childhood and, as it were, attempt to straighten them out from the beginning. This was the result at which psycho-analysis in the strict sense aimed.

As to silk purses and sows' ears, no one was in a better position than those present to realize that "sows' ears" existed, but there were also silk purses so knotted up as to be of little use, which were nevertheless very good purses if the knots could be taken out. For example, during the war many of those present must have met with patients whose fault had been that they had pitched their ideals too high and had got away from reality in that direction. When they had been brought up against the hard facts of their own natures, it had broken them up and yet they had been sometimes very fine fellows.

Professor Déjérine had said that the feeling for his patients created by a lifetime devoted to psycho-therapy was one, not of contempt, but rather of respect.

## MEDICO-POLITICAL.

A MEETING of the Queensland Branch of the British Medical Association was held in the B.M.A. Building, Adelaide Street, Brisbane, on October 6, 1922, the President, DR. G. P. DIXON, in the chair.

### Notice of Motion.

Notice of motion was given by DR. A. GRAHAM BUTLER as follows:

1. That the Council of the Branch be increased by two, making the total eight (inclusive of the Federal delegates).

2. That in order that the increased representation may be operative during next year, the incoming Council be empowered to elect two members to serve until the next election of officers.

## NOMINATIONS AND ELECTIONS.

THE undermentioned have been elected members of the Victorian Branch of the British Medical Association:

STEVENS, ROY HALFORD, M.B., B.S., 1922 (Univ. Melbourne), "Barholme," 11, Parlington Street, Canterbury.

TRUMBLE, HUGH COMPSON, M.B. *et* Ch.B., 1916 (Univ. Melbourne), 57, Collins Street, Melbourne.

# Medical Societies.

## THE MEDICAL SCIENCES CLUB OF SOUTH AUSTRALIA.

A MEETING of the Medical Sciences Club of South Australia was held in the Darling Building, University of Adelaide, on October 6, 1922.

### Re-Animation of Strongyloides.

MR. TIEGS exhibited specimens of a parasitic worm, *Strongyloides*, which was found as a human parasite in northern Queensland. The specimens had been collected by him in collaboration with Professor Harvey Johnston. They had been found in fæces which had been dried for three years. On suspending a small quantity of the material in water, it had been found, even after this prolonged period of desiccation, that the worms were still alive. After five or six hours of moistening, the worms could be seen to be actively motile. This worm had first been discovered in French soldiers from Cochin China. At that time they had been regarded as the cause of a severe form of diarrhœa. At the present time it was not usually considered that *Strongyloides* was pathogenic.

PROFESSOR T. BRAILSFORD ROBERTSON read some passages from Dalyell's translation of Spallanzani's tract on the natural history of animals and vegetables, in which similar re-animation of various species of worms was described, after they had been subjected to desiccation for prolonged periods.

PROFESSOR J. B. CLELAND stated that if *Ascaris* eggs were placed in formalin solution, commonly used for preserving tissues, for a year and were then removed to fresh saline solution, active embryos could be seen living inside the shell. He also drew attention to the remarkable vitality of a specimen of fungus which had recently been presented to him by Mr. Edquist. This fungus had been found beneath an asphalt floor 7.5 centimetres thick in a school shed. The floor had been laid twenty years before and must have been deposited above the mycelium. It was probable that water had recently succeeded in percolating through the floor. This had induced the mycelium to make an effort to send up its fruity cap and the force it had exerted had broken the asphalt.

### Melanosis in a Calf.

DR. LIONEL B. BULL exhibited specimens of melanotic tissue from a red heifer calf weighing fifty kilograms. The calf had been in good condition when slaughtered at the Metropolitan Abattoirs two months before the meeting. Nothing abnormal had been observed prior to death, but after it had been killed, it had been noticed that the palate was dark brown and that the trachea and œsophagus were pigmented. The under side of the skin was pigmented in patches, as were the meninges. The peritoneum and pleura were pigmented in places and the lungs were extensively pigmented. The kidneys and the mesentery were also pigmented. Dr. Bull stated that this condition was very rare in cattle and, when it occurred, it appeared exclusively in red animals. The pigment was situated mainly in the fibroblasts, but was not confined to them. It was seen in the epithelial cells of the œsophagus. This observation stood in opposition to the general view that the pigment in these cases was confined to lymph-endothelial cells. The diversity of cell types in which the pigment was observed, supported the supposition that the melanin was produced within the cells themselves. The most important question that presented itself, was whether this represented a disease of metabolism or an atavism to some pigmented ancestral type. Dr. Bull inclined to the view that it represented an atavism.

In horses melanotic sarcoma was associated with grey coat colour. In man melanotic sarcoma usually started from a pigmented wart. He and Sir Joseph Verco had seen it in the sole of the foot without any pigmented centre from which it might have started.

PROFESSOR CLELAND said that melanotic sarcoma at times originated in the chorioid. He spoke of the possible connexion of this melanotic condition with Addison's disease. In an ox he had noted that the supra-renal glands were jet black, as were the meninges and the *pia mater*. There were also large melanotic patches in the lungs. Melanosis involving the liver was common in Western Australia. In the sections of these livers it was seen that the pigmentation was not uniform, but reticular, occurring both in the connective tissue and in the hepatic cells. The condition was attributed by slaughtermen to pasturage of the animals on salt bush. Professor Cleland considered that it was unlikely that the pigment was formed by both epithelial and connective tissue cells.

DR. BULL pointed out that in melanotic sarcoma melanin was found in the stroma cells, as well as in the tumour cells.

In reply to this objection, PROFESSOR CLELAND retorted that this fact was not incompatible with the view that the pigment was furnished by one type of cell to the other. In advanced cases pigment was actually found in the urine.

DR. BULL, in discussing the ultimate outcome of melanosis in cattle, pointed out that melanin was very common in the lymphatic glands. As the animals grew to adult forms, they lost the pigment and it was found that the bronchioles contained ejected melanin. For this reason he held the opinion that the melanin was formed in the cells. Once it had been ejected, it was not again taken up.

PROFESSOR CLELAND described another process by means of which tissues might become pigmented. A light-house keeper on one of the islands off the south coast of South Australia had recently attempted to fatten pigs on penguins. It had been found that the fat tissue of the muscles had become pigmented in an extraordinary manner. It was mottled with yellowish-brown pigment. The meat had been condemned at the abattoirs. The fat of penguins was deeply pigmented. The pigs had utilized the fat, but not the pigment and lipochrome had been deposited in the connective tissues and in the septa between the muscle fibres.

### Anæsthetic Ether.

DR. G. BROWN recalled the fact that eighteen months previously Professor Rennie had drawn the attention of the members of the Club to an article on the absence of anæsthetic action of pure ether. Dr. Brown exhibited a specimen of "Ethanesal," consisting of the anæsthetic agents of impure ether, diluted with pure ether in the proportion required for the production of anæsthesia. It had been found that the mercaptans in impure ether were largely responsible for the headache and salivation accompanying ether anæsthesia. Pure ether, freshly prepared, had no anæsthetic action, but produced excitation. "Ethanesal" in 2% solution in pure ether was much less toxic than ordinary ether and was less irritating. The post-anæsthetic vomiting after inhalation of this mixture was less than with ordinary ether or chloroform and the pulse pressure was better sustained. He had employed it to induce anæsthesia in seventy persons varying in age from a few days to seventy-five years. He had used it in mixtures and also in the form of warmed vapour. He had found that the quantity of "Ethanesal" solution required to induce anæsthesia was slightly more than that of ordinary ether, but for maintenance of anæsthesia already induced, less "Ethanesal" was required.

DR. C. T. TURNER said that he had noticed that one batch of ether employed at the Adelaide Hospital produced excessive salivation, while another batch produced much less. Post-operative vomiting was greater with one sample than with another and the preliminary excitement varied according to the batch. The sample of ether that caused much preliminary excitement, did not necessary produce excessive secretion of mucus and saliva.

### Lipase-Glycerol Combination.

PROFESSOR T. BRAILSFORD ROBERTSON stated that lipase in a glycerine extract of pancreas withstood a considerable amount of heating, even to boiling point, without dissociation. If the glycerine were diluted with water, boiling immediately led to the destruction of the lipase. He suggested that in the presence of a high concentration of glycerol, the enzyme combined with the glycerol and thus became protected against destruction by heat. They might

regard this as an illustration of the general principle that enzymes combined with the substances entering into the reaction which they accelerated.

DR. W. RAY pointed out that bacteria heated in oil were less readily killed than bacteria heated in water. He suggested that the effect of dilution upon the lipase was by promoting hydrolysis of the lipase by water.

In objecting to this interpretation, PROFESSOR ROBERTSON said that there was already sufficient water in the glycerine extract of pancreas to promote hydrolysis, if that were the origin of heat inactivation.

### Pancreatic Extract and Diabetes.

DR. W. RAY referred to the beneficial effect of treatment of diabetes by the administration of dried pancreas (0.3 gramme) and calcium lactate (0.12 gramme), made up in tablet form in a keratin envelope. A definite rise of tolerance for carbo-hydrate had been observed.

PROFESSOR BRAILSFORD ROBERTSON gave a brief account of the work of Banting and Best. These investigators had succeeded in extracting in solution the active principle of the islets of Langerhans in a form permitting administration by intravenous injection. The extract had originally been obtained by blocking the pancreatic duct and thus inducing degeneration of all the acinous tissue. This left the island tissue intact. Extracts had been made of the remaining tissue. The extracts had been injected into dogs that had been rendered diabetic by the removal of a large portion of the pancreas. The result had been a sudden diminution of the blood sugar and of the symptoms of acidosis. Subsequently a method had been discovered of obtaining the same extract from the islet pancreatic tissue of cattle. The extract has been employed in the treatment of human diabetes. Professor Robertson stated that a considerable measure of success had been claimed for this treatment. The extract had been named "Insulin."

DR. H. K. FRY said that it had been contended that island tissue merely represented a resting form of acinous tissue of the pancreas. The glycolytic function of the pancreas would therefore extend to the acinous tissue as well as to the islets of Langerhans.

PROFESSOR ROBERTSON said that the fact that diabetes did not result when all the acinous tissue was destroyed as a result of the blocking of the pancreatic ducts, while diabetes was induced at once when nine-tenths of the gland was excised, indicated without doubt that the islets of Langerhans represented the specific tissue concerned in the regulation of the utilization of glucose. The total quantity of islet tissue would not comprise as large a proportion of the gland as that which was found ineffective to protect the animal from diabetes when the islet tissue and the acinous tissue had been completely removed.

### Tuberculosis of the Uterus.

PROFESSOR J. B. CLELAND exhibited specimens of tuberculosis of the uterus.

## Naval and Military.

### APPOINTMENTS.

THE following announcement has been published in the *Commonwealth of Australia Gazette*, No. 89, of October 26, 1922:

#### Australian Army Medical Corps (Permanent).

THE GOVERNOR-GENERAL IN COUNCIL has approved of the resignation of MAJOR-GENERAL SIR N. R. HOWSE, V.C., K.C.B., K.C.M.G., Australian Army Medical Corps (Permanent), of his appointment as Director-General of Medical Services being accepted, 7th November, 1922.

MAJOR-GENERAL SIR N. R. HOWSE, V.C., K.C.B., K.C.M.G., is transferred to the Unattached List of the Citizen Military Forces, 8th November, 1922.

## Correspondence.

### HEXAMETHYLENE-TETRAMINE IN PYELITIS.

SIR: With regard to the action of "Hexamine" in urinary infections, I may be able to give Dr. St. Ledger the help he desires by quoting the opinions of my late chief, Sir John Thomson Walker.

We now possess tests of the presence of both "Formalin" and "Hexamine" in the urine. When the latter drug and not the former appears in the urine, the antiseptic effect is nil. It has been clearly demonstrated that the "Formalin" reaction only becomes positive after "Hexamine" administration, when the total acidity of the urine lies between 22 decinormal and 32 decinormal. With blue litmus paper this corresponds to a well-marked and not a slight tinge of red. It is futile to give "Hexamine" until the urine has been rendered sufficiently acid. Probably the best acidifying drug is ammonium benzoate, given in twenty-grain doses after each meal; with it may be prescribed a like amount of boric acid, the most efficient antiseptic during the acidifying process. Once the urine is sufficiently acid, "Hexamine" is given by itself in fifteen-grain doses between meals, in order to escape the period of highest gastric acidity. The acidifying drug may be continued if care is taken to give it immediately after meals.

The "Hexamine" must be presented from coming into contact with an acid until it reaches the kidneys, so that "Formalin" is not liberated and wasted.

Whatever the cause of clinical improvement in pyelitis when "Hexamine" is prescribed with an alkaline urine, it is certainly not the "Hexamine" or its derivative, "Formalin." Yours, etc.,

R. J. SILVERTON.

"The Albany," 201, Macquarie Street,
Sydney, November 11, 1922.

### LOOKING BACKWARDS.

SIR: I wish that the Secretary of the B.M.A.[1] would arrange a "Looking Back" evening for us. Reminiscences of the long ago in medicine—and forty or fifty years ago constitutes that in our science and art—should contain much of interest, not only for our younger brethren, but also for those of us of the older time, who would be glad to have our memories refreshed about the days when the world was young.

I go back thirty-eight years to my start as a medical student and when I recall what we saw and learnt then, I realize the stupendous advance that has been made in all branches of medicine.

I saw the last of the carbolic spray and I have also seen amputations treated by water dressings and healing by laudable pus. And in all my student days I never saw an abdomen opened, nor adenoids removed. I remember a cholera epidemic in Egypt during which bonfires were lit in the streets to keep infection away, when we lived on preserved foods, banned all fruit and vegetables; in fact, did everything except boil the water we drank!

Again, when I indulged in pneumonia after typhus, my kindly but canny medical attendant investigated my lungs with a wooden stethoscope three feet long! But there are men older than I am who could bring a further past vividly before us. I should like to hear Dr. Scot Skirving tell in that inimitable fashion of his what he remembered of Edinburgh and its medical giants in the late 'seventies and perhaps Sir Charles Mackellar or Dr. Creed might be induced to take us still further back into (medically) prehistoric times. A glimpse also into practice in the bush in Australia fifty years ago would be fascinating to most of us.

Anyhow, I throw out the suggestion for what it is worth.

Yours, etc.,

RICHARD ARTHUR.

211, Macquarie Street, Sydney,
November 11, 1922.

[1] Dr. Arthur is probably referring to the Honorary Secretary of the New South Wales Branch of the British Medical Association.

# Medico-Legal.

## DEATHS FROM VIOLENCE.

THE following letter has been received by the Secretary of the Victorian Branch of the British Medical Association:

"Crown Law Offices,
"Melbourne, October 28, 1922.

"Dear Sir: At the Werribee Railway Station on the 28th September last one Alfred Leichfield, whilst unloading a truck of mallee roots, met with an accident as a result of which he died nine days later. It appears that the accident was caused by two other trucks being "kicked" into the truck from which Leichfield was unloading the mallee roots.

"Leichfield was under treatment by Dr. Manly, who was conversant with all the circumstances surrounding the accident and who gave a certificate that death was due to respiratory failure and injury to the spinal cord in the cervical region. On this certificate the deceased was buried, no inquest being held.

"The matter has now been brought under notice by the Coroner, Dr. Cole, who urges that, in view of the frequency of such cases, action should be taken to enforce a stricter observance of the provisions of the *Coroner's Act, 1915*.

"It is thought that with the cooperation of the members of your Association, who should decline to issue certificates in such cases, it would be possible to remove any future cause of complaint and the Attorney-General would be glad to have your assistance in attaining that end.

"Yours obediently,
(Signed) "A. T. LEWIS,
"Secretary to the Law Department."

Practitioners should remember that under no circumstances should they do anything that may lead to a miscarriage of justice. In the event of a death resulting from violence the practitioner should either refuse to give a death certificate or he should withhold the certificate until the relatives have notified the police or the coroner of the facts or he should forward the certificate to the coroner. If a certificate is given under these circumstances, the fact that the death has resulted directly or indirectly from violence should be clearly set out. The provisions of the *Coroner's Act, 1915*, do not deal with the issuing of death certificates by medical practitioners.

# University Intelligence.

## THE UNIVERSITY OF SYDNEY.

A MEETING of the Senate of the University of Sydney was held on November 6, 1922.

The degree of Master of Surgery (Ch.M.) was conferred upon DR. J. L. ROBERTS and DR. K. R. MCGREGOR, *in absentia*.

The following appointments, *inter alia*, were made: DR. BROWN CRAIG, DR. A. J. GIBSON and DR. R. I. FURBER as Tutors in Obstetrics at the Royal Hospital for Women, Women's Hospital and the South Sydney Hospital respectively.

The following examiners were appointed for the forthcoming examinations:

*Faculty of Medicine*: DR. A. W. HOLMES À COURT as co-examiner in Therapeutics and *Materia Medica*.

*Department of Pharmacy*: DR. J. MACPHERSON as co-examiner in *Materia Medica*.

A letter from the Under Secretary for Education, asking that the subject of Italian be introduced into the matriculation examination, was referred to the Faculty of Arts for report.

A letter from the Royal Alexandra Hospital for Children, asking for recognition by the University as a teaching hospital, was referred to the Faculty of Medicine for report.

PROFESSOR HOLME and MR. T. G. MACKAY were appointed Senate representatives on the University Union and MRS. B. MUSCIO and MRS. R. J. LYONS as its representatives on the Women's Union.

The following recommendation of the Professorial Board respecting the terms of award of the Robert Campbell Scholarship was adopted:

*The Robert Campbell Scholarship.*—Awarded for proficiency at the matriculation examination to a student who is deemed of sufficient merit. Candidates will be required to make application on printed forms obtainable from the University; such forms must show that the candidate is in straitened circumstances. The scholarship will be tenable in any faculty for a period of two years, during which the holder will receive payments at the rate of £50 *per annum* so long as he shall faithfully pursue his studies in the University and pass his examinations satisfactorily. In making the award, preference will be given to a son or daughter of a member of the Australian Imperial Force, 1914 to 1918.

# Proceedings of the Australian Medical Boards.

## NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of the *Medical Act, 1912 and 1915*, as duly qualified medical practitioners:

BENT, LINDSAY PEREGRINE, M.B., Bac. Surg., 1916 (Univ. Melbourne), Quarantine Service, Customs House, Sydney.

CHALMERS, ALEXANDER WILLIAM, M.B., 1922 (Univ. Sydney), St. Andrew's College, Newtown.

COHNEY, SOLOMON, L.M.S.S.A., Lond., 1922, 143, Macquarie Street, Sydney.

DE MONCHAUX, CHARLES FRANCIS ANTHONY, M.B., 1922 (Univ. Sydney), St. John's College, Camperdown.

GORDON, JAMES BRUCE, M.B., Ch.M., 1922 (Univ. Sydney), "Centennial Hotel," Wigram Road, Forest Lodge.

HELMS, KAREN THOMSEN, M.B., Ch.M., 1922 (Univ. Sydney), "Valhalla," Orpington Street, Ashfield.

KILGOUR, HEATHER, M.B., Ch.M., 1922 (Univ. Sydney), 38, Alt Street, Ashfield.

MANTON, WILLIAM KILDARE, M.B., Ch.M., 1922 (Univ. Sydney), 105, King Street, Randwick.

WEBB, WALTER FREDERICK SWANTON, L.R.C.P., Edin., 1920; L.R.C.S., Edin., 1920; L.R.F.P.S., Glasg., 1920, 4, Lamont Street, Wollstonecraft.

### For Additional Registration.

HYNDES, KATHERINE, Ch.M., 1922 (Univ. Sydney).
LOCKE, KEITH MORGAN, Ch.M., 1922 (Univ. Sydney).

## VICTORIA.

THE undermentioned have been registered under the provisions of Part I. of the *Medical Act, 1915*, as duly qualified medical practitioners:

JOYCE, ARTHUR HERBERT, M.B., B.S., 1922 (Univ. Melbourne), 70, Chaucer Street, St. Kilda.

TEMPLE, ADOLPH, M.B. *et* Ch.M., Aberdeen, 1890, 97, Elizabeth Street, Melbourne.

Names of practitioners removed from the Register under Section 9 of the *Medical Act* for failure to notify change of address:

CRAWFORD, ARTHUR WILLIAM.
DAWSON, WILLIAM COLLINGS.
DOVASTON, MILWARD EDMUND.
DOW, JAMES WALLACE.
EDGELOW, SAMUEL HENRY.
ELSNER, FREDERICK WILLIAM.
ESSLEMONT, JOHN EBENEZER.

EVILL, FREDERICK CLAUDE.
FAIRLIE, JAMES DANIEL BROWN.
FARNDALE, JOHN WILLIAM.
FLETCHER, MARY ELIZABETH DIGGLE.
FLOREY, HILDA JOSEPHINE.
FOLEY, JOHN HAMILTON.
FOX, GEORGE.
FULLARD, JOHN.

Name of deceased practitioner removed from the Register:

LOUGHREY, BERNARD.

## Books Received.

HISTORY OF THE GREAT WAR BASED ON OFFICIAL DOCUMENTS:

MEDICAL SERVICES: GENERAL HISTORY, in four volumes, by Major-General Sir W. G. Macpherson, K.C.M.G., C.B., LL.D.; Volume I.; 1921. London: His Majesty's Stationery Office; Demy 8vo., pp. xv. + 463, with twenty maps, charts, etc. Price: 22s. net.

MEDICAL SERVICES: DISEASES OF THE WAR, edited by Major-General Sir W. G. Macpherson, K.C.M.G., C.B., LL.D., Major-General Sir W. P. Herringham, K.C.M.G., C.B., Colonel T. R. Elliott, C.B.E., D.S.O., and Lieutenant-Colonel A. Balfour, C.B., C.M.G.; Volume I.; 1921. London: His Majesty's Stationery Office; Demy 8vo., pp. viii. + 550, with six coloured plates. Price: 22s. net.

MEDICAL SERVICES: SURGERY OF THE WAR, in two volumes, edited by Major-General Sir W. G. Macpherson, K.C.M.G., C.B., LL.D., Major-General Sir A. A. Bowlby, K.C.B., K.C.M.G., K.C.V.O., Major-General Sir Cuthbert Wallace, K.C.M.G., C.B., and Colonel Sir Crisp English, K.C.M.G.; Volume I.; 1922. London: His Majesty's Stationery Office; Demy 8vo., pp. vii. + 618, with six coloured plates. Price: 26s. net.

PHYSIOLOGY AND BIOCHEMISTRY IN MODERN MEDICINE, by J. J. R. Macleod, M.B., assisted by Roy G. Pearce, A. C. Redfield and N. B. Taylor and by others; Fourth Edition; 1922. St. Louis: C. V. Mosby Company; Royal 8vo., pp. xxxii. + 992, with 243 illustrations, including nine plates in colour. Price: $11.00.

## Medical Appointments.

DR. W. H. NETTE (B.M.A.) has been appointed Senior Resident Medical Officer at the Brisbane Hospital, Queensland.

* * * *

DR. L. H. FOOTE has been appointed a Resident Medical Officer at the Brisbane Hospital, Queensland.

* * * *

DR. G. F. HEWER has been appointed Acting Deputy Superintendent of the Parkside Mental Hospital, South Australia.

* * * *

DR. P. J. ALPERS has been appointed Temporary Resident Medical Officer at the Adelaide Hospital, South Australia.

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DR. T. M. FURBER (B.M.A.) has been appointed to the Honorary Surgical Staff of the Coast Hospital, New South Wales.

## Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii..

ADELAIDE CHILDREN'S HOSPITAL (INCORPORATED): Resident Medical Officer.

BROKEN HILL AND DISTRICT HOSPITAL: Senior and Junior Resident Medical Officers.

DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES: Third Government Medical Officer.

ISISFORD DISTRICT HOSPITAL (CENTRAL QUEENSLAND): Medical Officer.

MELBOURNE HOSPITAL: Vacancies on the Honorary Staff.

POSTMASTER-GENERAL'S DEPARTMENT, MELBOURNE: Medical Officer.

ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, SYDNEY: Vacancies on the Honorary Staff.

## Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C..

| BRANCH. | APPOINTMENTS. |
|---|---|
| NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney | Australian Natives' Association<br>Ashfield and District Friendly Societies' Dispensary<br>Balmain United Friendly Societies' Dispensary<br>Friendly Societies Lodges at Casino<br>Leichhardt and Petersham Dispensary<br>Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney<br>Marrickville United Friendly Societies' Dispensary<br>North Sydney United Friendly Societies<br>People's Prudential Benefit Society<br>Phœnix Mutual Provident Society |
| VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne | All Institutes or Medical Dispensaries<br>Australian Prudential Association Proprietary, Limited<br>Manchester Unity Independent Order of Oddfellows<br>Mutual National Provident Club<br>National Provident Association |
| QUEENSLAND: Honorary Secretary, B. M. A. Building, Adelaide Street, Brisbane | Brisbane United Friendly Society Institute<br>Stannary Hills Hospital |
| SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide | Contract Practice Appointments at Renmark<br>Contract Practice Appointments in South Australia |
| WESTERN AUSTRALIA: Honorary Secretary, Saint George's Terrace, Perth | All Contract Practice Appointments in Western Australia |
| NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington | Friendly Society Lodges, Wellington, New Zealand |

## Diary for the Month.

NOV. 28.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
NOV. 28.—Victorian Branch, B.M.A.: Ballot Paper Issued.
NOV. 29.—Victorian Branch, B.M.A.: Council.
NOV. 30.—South Australian Branch, B.M.A.: Branch.
DEC. 1.—Queensland Branch, B.M.A.: Branch.
DEC. 5.—New South Wales Branch, B.M.A.: Ethics Committee.
DEC. 5.—Victorian Branch, B.M.A.: Ballot Papers Returned.
DEC. 6.—Victorian Branch, B.M.A.: Annual General Meeting.
DEC. 8.—New South Wales Branch, B.M.A.: Branch.
DEC. 8.—Queensland Branch, B.M.A.: Council.
DEC. 8.—South Australian Branch, B.M.A.: Council.
DEC. 9.—Eastern District Medical Association, New South Wales.
DEC. 12.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
DEC. 13.—Western Australian Branch, B.M.A.: Council.
DEC. 13.—Melbourne Pædiatric Society.
DEC. 13.—South Sydney Medical Association, New South Wales.
DEC. 14.—Victorian Branch, B.M.A.: Council.

## Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, B.M.A. Building, 30-34, Elizabeth Street, Sydney. (Telephone: B. 4635.)

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